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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
CCG	Clinical Commissioning Group
CCM	Chronic Care Model
Chafea	Consumers, Health, Agriculture and Food Executive Agency
EHR	Electronic Health Record
CMHT	Community Mental Health Team
COPD	Chronic Obstructive Pulmonary Disease
DG SANTE	Directorate-General for Health & Food Safety
EC	European Commission
ECDC	European Centre for Disease Prevention and Control
EHMA	European Health Management Association
EIPonAHA	European Innovation Partnership on Active and Healthy Ageing
EPHA	European Public Health Alliance
EU	European Union
HP	Health Programme
HSPA	Health System Performance Assessment
IC	Integrated Care
ICPA	Integrated Care Performance Assessment
ICT	Information and Communications Technology
IHO	Integrated Healthcare Organisations
KTC	Key Testing Criterion/Criteria
MDT	Multidisciplinary Team
MS	Member State(s) (of EU)
PCMH	Patient Centred Medical Home
OECD	Organisation for Economic Co-operation and Development
OSIs / ICOs	*Organizaciones Sanitarias Integradas* / Integrated Healthcare Organisations
PPP	Public–Private Partnership
PROM	Patient-Reported Outcome Measure
QA	Quality Assurance
SHI	Statutory Health Insurance
SCIROCCO	Scaling Integrated Care in Context
SMI	Severe Mental Illness
VHI	Voluntary Health Insurance
WHO	World Health Organization

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ABSTRACT

The work presented here had two purposes: (i) to assess the level of penetration of integrated care in the EU28, Norway and Iceland, and the level of maturity of several health systems at national, regional and local level; and (ii) to develop and test a framework of indicators to assess the performance of integrated care.

A literature review of integrated care policies and strategies was conducted, complemented by the compilation of a repository of 546 integrated care initiatives across the 30 countries. From the analysis of the literature and maturity assessments, it was concluded that integrated care initiatives are present in all study countries, although their characteristics, depth and breadth of penetration vary considerably.

Building on this knowledge, the selection of core indicators to assess the performance of integrated care and the co-design of the accompanying framework model followed an iterative approach, with regular stakeholder engagement, in the form of questionnaires, videoconferences and peer-review webinars.

The Integrated Care Performance Assessment Framework will help policy-makers, health managers and professionals across Europe to further develop their integrated care system – based on their current state and context – and could help them track the achievement of better health outcomes and positive patient experiences.

EXECUTIVE SUMMARY

Today, integrated care focuses on reducing fragmentation in healthcare by reducing silos and providing patient-centred care. There is a greater need for care coordination, particularly due to trends such as: (i) the ageing population, (ii) the increasing number of patients with co-morbidities, (iii) the growing number of medical specialties, (iv) the need for changes in the financing mechanisms of hospitals and health and care institutions, (v) technological advancement, and (vi) increased healthcare costs and expenditure. The integration of care is one of the solutions that will enable care systems to address this new landscape, by increasing communication between care providers, reducing the unnecessary costs of duplication of tests and services, and enhancing continuity of care for patients moving from one care setting to another.

This study, *Health system performance assessment – integrated care assessment,* was commissioned by Chafea to follow up on a report published by the Health System Performance Assessment (HSPA) Expert Group on the development of tools and methodologies to assess integrated care. The study, also guided by DG SANTE, had the two main purposes:

Purpose 1: to review progress on integration of care in the European Union, Norway and Iceland at national and regional level, by:

a. Analysing the level of penetration or adoption of integrated care models in health systems; and
b. Analysing the readiness of health systems to successfully implement integrated care.

Purpose 2: to propose and test a framework of indicators to assess the performance of integrated care.

A **literature review** of integrated care policies and strategies, and the mapping of all integrated care initiatives across the 28 Member States, Norway and Iceland, was conducted to establish the level of penetration and adoption of integrated care initiatives. The analysis of the level of penetration and adoption of integrated care across Europe, highlighted variability across different countries. We concluded that integrated care initiatives, although present in all 30 study countries, vary in terms of their characteristics, depth and breadth of penetration. It is important to note that European countries have initiated their respective journeys toward integrated care at different times; however, the current diverse landscape of integrated care adoption across Europe suggests that the level of penetration, adoption and maturity of integrated care in a country is not solely dependent on how long the country has been implementing integrated care policies.

The literature review also looked at the barriers and facilitators to the implementation of integrated care, and we found that lack of cooperation between organisations, teams or professions is a recurrent barrier, together with lack of resources or knowledge. Strong commitment to a vision for integrated care and collaborative networks, as well as good communication and leadership were highlighted as key facilitators of integrated care. Moreover, as suggested in the HSPA report, as well as by the experts included in this study, political support, political commitment and clear strategies at national or regional level are fundamental to enable integrated care at the system level. Although bottom-up approaches are important and several have been successful in achieving integrated care

locally, a top-down approach is also necessary to create an enabling environment and the conditions that accelerate the spread and adoption of integrated care at scale.

From the **mapping of integrated care initiatives** exercise, we retrieved a total of 71 integrated care policies and strategies. The characteristics of these policies and strategies are diverse throughout the study countries. For example, the objectives and scopes of the policies and strategies vary across countries with respect to several domains, e.g. geographical scope (*national versus regional*), the care components integrated, and clinical conditions, as well as type (*functional, organisational, professional, clinical*), level (*vertical, horizontal*) and degree (*linkage, coordination, full integration*) of integration. However, important similarities between countries were also noted, with most strategies and policies focusing on chronic care and multi-morbidity.

With the cooperation of international experts, the mapping exercise retrieved a total of 660 integrated care initiatives, which, following an internal validation by the team, was reduced to a total of 550 validated initiatives across the 30 countries. Of all the initiatives, the most common types are interventions and models, while the least common types are policies and strategies. The percentage of integrated care initiatives categorised as interventions was found to be higher in countries with regionally devolved health systems, such as Estonia and Italy. Conversely, countries with traditionally more centralised health systems (such as Greece and Hungary) were found to have a higher percentage of policies. The information retrieved for the mapping has been compiled in a **Repository of Integrated Care Initiatives**.

Building on the findings of the literature review and mapping of integrated care initiatives, an **analysis of the level of maturity of integrated care implementation** was conducted across 12 selected health systems (Belgium, Bulgaria, Denmark, Estonia, Germany, Greece, Iceland, Italy, the Netherlands, Poland, Spain, Sweden). The maturity assessment was performed using SCIROCCO's online self-assessment tool: 'Maturity Model for Integrated Care'. From the comparison of the maturity self-assessment of the 12 health systems, the health systems in Belgium, Denmark, Germany, Greece, Iceland, Italy, Spain and Sweden were perceived by their corresponding stakeholders to be more mature than those in Estonia, the Netherlands, Poland and Bulgaria. Germany's Hausach and Haslach areas scored among the highest, while Estonia scored among the lowest.

In this study, **a framework for the performance assessment of integrated care implementation** is proposed that can be used by practitioners, policy-makers, academics and regulators. In order to inform the design of such a framework, the study used data and knowledge from the integrated care mapping exercise and the maturity self-assessments to select 14 integrated care sites across Europe to co-design the performance assessment framework. The co-design of the framework was guided by our understanding of: (i) the core aim of integrated care and its desired outcomes; (ii) the timeframe over which outcomes can reasonably be achieved; (iii) the robustness of outcome and process measures; and (iv) the simplicity and ease of the measurements. Together with the representatives of the 14 selected European integrated care projects, an expert panel was also involved in the development of the framework. From extensive stakeholder and expert consultation, and the iterative screening and selection of indicators, 56 indicators were selected to be discussed in a stakeholder workshop held in Brussels.

Each of the 56 indicators was assessed by the engaged stakeholders against six criteria: (i) scientific validity; (ii) relevance to integrated care; (iii) reliability of the measurement; (iv) international feasibility; (v) actionability/usability; and (vi) international

comparability. Moreover, a coherence analysis was undertaken, by measuring the level of coherence in stakeholders' assessments for each testing criteria. A qualitative analysis of stakeholders' comments was also done, highlighting five overarching themes: generalisability of indicators; relevance of indicators; definition issues for indicators; unreliability of some indicators; and feasibility. Each indicator was then scored and ranked based on their relevance to integrated care. Following consultation with a group of peer reviewers, thresholds for direct inclusion and exclusion of indicators were defined: indicators scoring higher than the 90% threshold were included in the framework, whereas indicators scoring lower than the 40% threshold were directly excluded from the framework. In order to validate the findings from the co-design process and the peer-review webinars, a final workshop was held in Brussels.

Through this process, it was possible to propose an evidence-based framework that allows users to track their integrated care activities through time and assess their performance. The result of the co-design process is a **set of core indicators** grouped in four domains: **advancement of integration, use of care services, health outcomes, experiences of care** and **quality of life**.

The accompanying **Integrated Care Performance Assessment (ICPA)** framework model that has been developed allows for the practical application of this list of core indicators and includes: definitions and proposed measures for the indicators; a list of optional indicators identified in the literature that, depending on the context, may also be important for assessing performance of integrated care; and a proposed model to monitor and assess the **allocation of funds** and how it is linked to the performance of the integrated care initiative, and thus provide a **financial evaluation** to inform future expenditure decisions.

As a result of the study it was possible to propose an evidence-based framework that would allow users to track their integrated care activities through time and assess their performance. It is acknowledged that some challenges remain in the application of the proposed framework:

- Some definitions and proposed measures may need further revisions and adaptation to the local contexts;
- Where there are not standardised measures and scales at EU or national level, the results from different areas may not be comparable;
- There may be some challenges in the availability of information, especially as recent adopters of integrated care start scaling up their systems and rely more on the indicators obtained regularly from information systems.

Given the above, the framework is dynamic and could be further refined and adapted in the future.

RESUME EXECUTIF

Aujourd'hui, les soins intégrés visent à réduire la fragmentation des soins de santé en réduisant le cloisonnement et en fournissant des soins centrés sur le patient. Le besoin de coordonner les soins est plus important, notamment en raison de tendances telles que: (i) le vieillissement de la population, (ii) le nombre croissant de patients présentant des comorbidités, (iii) le nombre croissant de spécialités médicales, (iv) le besoin de changements des mécanismes de financement des hôpitaux et des établissements de santé et de soins, (v) les avancées technologiques, et (vi) l'augmentation des coûts et des dépenses de santé. L'intégration des soins est l'une des solutions qui permettra aux systèmes de soins de répondre à ce nouveau paysage, en améliorant la communication entre les fournisseurs de soins, en réduisant les coûts de duplication inutile des tests et services, et en améliorant la continuité des soins pour les patients en passant d'un milieu de soins à un autre.

Cette étude, *l'évaluation de l'efficacité des systèmes de santé - évaluation des soins intégrés*, a été commandite par l'agence exécutive pour les consommateurs, la santé, l'agriculture et l'alimentation (CHAFEA) pour donner suite à un rapport publié par le groupe d'experts sur l'évaluation de l'efficacité des systèmes de santé (HPSA) sur le développement d'outils et de méthodologies pour évaluer les soins intégrés. L'étude, également guidée par la DG SANTE, avait deux objectifs principaux :

Objectif 1 : examiner les progrès réalisés en matière d'intégration des soins dans l'Union européenne, en Norvège et en Islande au niveau national et régional, en :

a. Analysant le taux de pénétration ou d'adoption de modèles de soins intégrés dans les systèmes de santé ; et

b. Analysant la volonté des systèmes de santé de mettre en œuvre les soins intégrés avec succès.

Objectif 2 : proposer et tester un cadre d'indicateurs pour évaluer la performance des soins intégrés.

Une analyse documentaire sur les politiques et stratégies de soins intégrés et la cartographie de toutes les initiatives de soins intégrés dans les 28 États membres, en Norvège et en Islande, a été effectué pour établir le taux de pénétration et d'adoption des initiatives de soins intégrés. L'analyse du taux de pénétration et d'adoption des soins intégrés en Europe a mis en évidence la variabilité entre les différents pays. Nous avons conclu que les initiatives de soins intégrés, bien que présentes dans les 30 pays étudiés, varient en termes de caractéristiques, de profondeur et d'étendue de la pénétration. Il est important de noter que les pays européens ont initié leurs parcours respectifs vers des soins intégrés à différents moments ; cependant, le paysage diversifié actuel d'adoption des soins intégrés en Europe suggère que le taux de pénétration, d'adoption et de maturité des soins intégrés dans un pays ne dépend pas uniquement de la durée pendant laquelle le pays a mis en œuvre des politiques de soins intégrés.

L'analyse documentaire a également examiné les obstacles et les facilitateurs à la mise en œuvre des soins intégrés, et nous avons constaté que le manque de coopération entre les organisations, les équipes ou les professions est un obstacle récurrent, de même que le manque de ressources ou de connaissances. Certains facilitateurs clés des soins intégrés ont été identifiés, tels qu'un fort engagement pour une vision des soins intégrés et des

réseaux de collaboration, ainsi qu'une bonne communication et une direction claire. En outre, comme suggéré par le rapport d'évaluation de l'efficacité des systèmes de santé, ainsi que par les experts impliqués dans cette étude, un soutien et un engagement politique et des stratégies claires au niveau national ou régional sont fondamentaux pour permettre l'intégration des soins au niveau du système. Bien que les approches par le bas soient importantes et que plusieurs initiatives aient réalisé l'intégration des soins localement, une approche par le haut est également nécessaire pour créer un environnement favorable et les conditions qui accélèrent la diffusion et l'adoption de soins intégrés à grande échelle.

Un total de 71 politiques et stratégies de soins intégrés a été identifié au cours de la **cartographie des initiatives de soins intégrés**. Les caractéristiques de ces politiques et stratégies sont diverses dans l'ensemble des pays étudiés. Par exemple, les objectifs et les champs d'application des politiques et des stratégies varient d'un pays à l'autre en ce qui concerne plusieurs domaines, par exemple portée géographique (nationale ou régionale), composantes de soins intégrées, et conditions cliniques, ainsi que type (fonctionnel, organisationnel, professionnel, clinique), niveau (vertical, horizontal) et degré d'intégration (lien, coordination, intégration complète). Cependant, d'importantes similitudes entre les pays ont également été notées, la plupart des stratégies et politiques se consentant sur les soins chroniques et la multi-morbidité.

Avec la coopération d'experts internationaux, l'exercice de cartographie a permis d'identifier un total de 660 initiatives de soins intégrés qui, suite à une validation interne, a été réduit à un total de 550 initiatives validées dans les 30 pays. De toutes les initiatives, les plus courantes sont les interventions et les modélisations, tandis que les moins courantes sont les politiques et les stratégies. Le pourcentage d'initiatives de soins intégrés classées comme interventions a été jugé plus élevé dans les pays dotés de systèmes de santé régionaux décentralisés, comme l'Estonie et l'Italie. À l'inverse, les pays ayant des systèmes de santé traditionnellement plus centralisés (tels que la Grèce et la Hongrie) ont un pourcentage de politiques plus élevé. Les informations récupérées pour la cartographie ont été regroupées dans un **référentiel d'initiatives de soins intégrés**.

Sur la base des résultats de l'analyse documentaire et de la cartographie des initiatives de soins intégrés, une **analyse du niveau de maturité de la mise en œuvre des soins intégrés** a été menée dans 12 systèmes de santé sélectionnés (Belgique, Bulgarie, Danemark, Estonie, Allemagne, Grèce, Islande, Italie, Pays-Bas, Pologne, Espagne, Suède). L'évaluation de la maturité a été réalisée à l'aide de l'outil d'auto-évaluation en ligne de SCIROCCO : « Maturity Model for Integrated Care » (Modèle de maturité pour les soins intégrés). Des 12 systèmes, les systèmes de santé en Belgique, au Danemark, en Allemagne, en Grèce, en Islande, en Italie, en Espagne et en Suède ont été perçus par les parties prenantes comme plus matures que ceux d'Estonie, des Pays-Bas, de Pologne et de Bulgarie. Les régions allemandes d'Hausach et de Haslach ont été parmi les plus matures, tandis que l'Estonie a été parmi les plus moins matures.

Dans cette étude, **un cadre d'évaluation de la performance de la mise en œuvre des soins intégrés** est proposé. Il peut être utilisé par les professionnels de la santé, les décideurs politiques, les universitaires et les régulateurs. Afin d'éclairer la conceptualisation d'un tel cadre, l'étude a utilisé les données et les connaissances de l'exercice de cartographie des soins intégrés et des auto-évaluations de maturité pour sélectionner 14 sites de soins intégrés en Europe pour co-concevoir le cadre d'évaluation. La co-conception du cadre a été guidée par notre compréhension de : (i) l'objectif principal des soins intégrés et les résultats souhaités ; (ii) le délai dans lequel les résultats peuvent

raisonnablement être atteints ; (iii) la robustesse des résultats et des mesures de processus ; et (iv) la simplicité et la facilité des mesures. En collaboration avec les représentants des 14 projets de soins intégrés sélectionnés, un panel d'experts a également été impliqué dans le développement du cadre. Grâce à une vaste consultation des parties prenantes et des experts, à un criblage itératif, 56 indicateurs ont été sélectionnés pour être discutés lors d'un atelier des parties prenantes qui s'est tenu à Bruxelles.

Chacun des 56 indicateurs a été évalué par les parties prenantes engagées en fonction de six critères : (i) leur validité scientifique ; (ii) leur pertinence pour les soins intégrés ; (iii) la fiabilité de la mesure ; (iv) la faisabilité de la mise en place internationale ; (v) la possibilité d'action / facilité d'utilisation ; et (vi) la comparabilité internationale. De plus, une analyse de cohérence a été réalisée en mesurant le niveau de cohérence des évaluations des parties prenantes pour chaque critère de test. Une analyse qualitative des commentaires des parties prenantes a également été réalisée, mettant en évidence cinq thèmes généraux : la possibilité de généraliser les indicateurs ; leur pertinence ; les problèmes de définition ; la manque de fiabilité de certains indicateurs; et la faisabilité. Chaque indicateur a ensuite été évalué et classé en fonction de sa pertinence pour les soins intégrés. Après consultation d'un comité de tiers experts, des seuils d'inclusion directe et d'exclusion des indicateurs ont été définis : les indicateurs obtenant un score supérieur au seuil de 90% ont été inclus, tandis que les indicateurs inférieurs au seuil de 40% furent directement exclus. Afin de valider les résultats du processus de co-conception et des webinaires d'examen par les pairs, un atelier final s'est tenu à Bruxelles.

Grâce à ce processus, il a été possible de proposer un cadre factuel permettant aux utilisateurs de suivre leurs activités de soins intégrés au fil du temps et d'évaluer leur performance. Le résultat du processus de co-conception est **un ensemble d'indicateurs de base** regroupés en quatre domaines : **avancement de l'intégration**, **utilisation des services de soins**, **résultats en matière de santé**, **expériences de soins** et **qualité de vie**.

Le cadre d'**évaluation des performances des soins intégrés** qui a été développé permet l'application pratique de ces indicateurs de base et comprend: les définitions et les mesures proposées pour les indicateurs; une liste d'indicateurs optionnels identifiés qui, selon le contexte, peuvent également être importants pour évaluer le rendement des soins intégrés; et un modèle proposé pour contrôler et évaluer l'**allocation de fonds**, comment celui-ci est lié à la performance de l'initiative d'intégration des soins, et ainsi fournir une **évaluation financière** pour guider les futures décisions de dépenses.

À la suite de cette étude, il a été possible de proposer un cadre fondé sur des données probantes permettant aux utilisateurs de suivre leurs activités de soins intégrés au fil du temps et d'évaluer leur performance. Certains défis subsistent cependant dans l'application du cadre proposé :

- ☐ Certaines définitions et certaines mesures proposées peuvent nécessiter d'autres révisions et des adaptations au contexte local ;
- ☐ Lorsqu'il n'y a pas de mesures et d'échelles normalisées au niveau de l'Union européenne ou au niveau national, les résultats provenant de différentes zones peuvent ne pas être comparables ;
- ☐ La disponibilité de l'information peut poser certains problèmes, d'autant que là où les soins intégrés ont été adoptés récemment, le renforcement des

systèmes s'appuie davantage sur les indicateurs obtenus régulièrement grâce aux systèmes d'information.

En conclusion, le cadre développé est dynamique et pourrait encore être affiné et adapté à l'avenir.

1. INTRODUCTION

Optimity Advisors was commissioned by Chafea to follow up work done by the Health System Performance Assessment (HSPA) Expert Group in the development of an assessment framework for integrated care. The study, *Health system performance assessment – integrated care assessment,* had two main purposes:

Purpose 1: to review progress on integration of care in the European Union, Norway and Iceland at national and regional level, by:

a. Analysing the level of penetration or adoption of integrated care models in health systems; and
b. Analysing the readiness of health systems to successfully implement integrated care.

Purpose 2: to propose and test a framework of indicators to assess the performance of integrated care.

Section 3 of this report presents the results of Part 1.a of the study; that is, the analysis of the level of penetration and adoption of integrated care in the countries covered by the study. The analysis is based on (i) a literature review, and (ii) mapping of integrated care initiatives – interventions, models, strategies and policies – in the EU28, Norway and Iceland.

Section 4 presents the results of the analysis of the readiness of health systems to successfully implement integrated care (Part 1.b of the study). The analysis is based on the self-assessment of 12 European health systems at national, regional or local level. The self-assessment was carried out by applying the Maturity Model tool.[1]

Section 5 presents the proposed integrated care performance assessment model developed in an iterative co-design process together with the pre-selected integrated projects (Part 2 of the study).

Section 6 includes concluding remarks and recommendations on how to build on the work summarised in this report, in the context of assessing the performance of integrated care implementation for stakeholders across the EU, Norway and Iceland.

The materials developed throughout the duration of the project are included as Annexes to this report. These are:

- *Annex 1:* Repository of Integrated Care Initiatives;
- *Annex 2:* Selection of health systems for integrated care readiness assessment case studies;
- *Annex 3*: Health system fiches and assessments of integrated care maturity;

[1] The tool was developed by SCIROCCO, an EU-funded project that aims to facilitate the scalability of integrated care implementation in a context-sensitive manner. Additional information can be found at https://www.scirocco-project.eu/

- *Annex 4:* Selection of Integrated Care projects for the development of the Performance Assessment Framework Model;
- *Annex 5:* Integrated Care Performance Assessment (ICPA) Model.

2. CONTEXT OF THE STUDY

Integrated care refers to combining various elements of health and social care to create a cohesive experience for the subject receiving care. The idea of treating the 'whole person' and providing integrated mental and physical health goes back thousands of years (Goodwin and Ferrer, 2013). Today, integrated care focuses on reducing fragmentation in healthcare by reducing silos and providing patient-centred care. There is a greater need for care coordination, particularly due to the rise of a series of complex factors in recent decades, including (i) the ageing population, (ii) the increasing number of patients with co-morbidities, (iii) the growing number of medical specialties, (iv) the need for changes in the financing mechanisms of hospitals and health and care institutions, (v) technological advancement, and (vi) the need for shorter hospital stays. Care coordination could include healthcare provided in hospital and non-hospital settings as well as social care, informal care, and other related services.

Specifically, this study adopts the definition of integrated care set out in the report of the HSPA Expert Group on Integrated Care, *BLOCKS. Tools and methodologies to assess integrated care in Europe* (European Commission, 2017a):

> *Integrated care includes initiatives seeking to improve outcomes of care by overcoming issues of fragmentation through linkage or coordination of services of providers along the continuum of care.*

Over the last 50 years, in recognition of the change in population needs, healthcare has continued to move away from hospital-based systems to integrated care ones which also encompass out-of-hospital care to better address the needs of patients (Lewis et al., 2010). Indeed, a report by the Institute of Medicine demonstrated that consolidation and harmonisation of healthcare services yields better benefits over improving medical services, skills and clinical procedures (Richardson et al., 2001). While each integrated care initiative may differ, the overall objective of integrating care is to deliver high-quality, patient-centred, equitable healthcare at the appropriate time and location to improve health outcomes (WHO, 2015). Care integration leads to opportunities to use resources more efficiently to achieve the triple aim of increasing the quality of care and improving population health, subsequently reducing the cost of healthcare (Institute for Healthcare Improvement, 2018).

Integrated care is needed to address challenges such as lack of communication between care providers, the potential for duplication of tests and services, the breakdown of continuity of care as patients move from one care setting to another, and the possible interference between concurrent treatment plans prescribed by different providers for patients with multi-morbidities. According to the WHO, people-centred and integrated services should offer greater value for money through minimising duplication, reducing waste through improved coordination across care providers in the longer term (WHO, 2015). Further efficiencies are to be gained through changes in the healthcare structures, organisation of workflows, workforce development and in resource allocation in order to provide more responsive and integrated care delivery (European Commission, 2017a). Thus, integrated care should improve organisational behaviour and encourage bottom-up approaches to work, ownership, and teamwork.

The World Health Organization (WHO) European Office outlined **11 key working areas** for integrated care:

- Primary healthcare;
- Hospital management;
- Emergency medical services;
- Health promoting hospitals;
- Home healthcare;
- Financing healthcare services;
- Developing family medicine, the family physician and family nurse;
- Medical education;
- Towards unity for health (multi-professional approaches);
- Telemedicine;
- Linking levels of care.

The WHO has also outlined six key dimensions to healthcare integration (WHO, 2015), namely:

- Integration between preventive and curative health interventions to group appropriate and related interventions in a single patient visit;
- Integration across service delivery locations with multiple services available so a patient can receive multiple services during one health centre visit;
- Integration over time or continuity of care in terms of medical treatments, chronic conditions, and human life-cycle;
- Integration between levels of care: hospitals, residential treatment centres, urgent care, primary care clinics, etc;
- Integration between policy-making and management to ensure that health organisations meet a standard set of policies;
- Integration across sectors, such as health and social services (e.g. long-term care for the elderly, health promotion campaigns in schools).

Moreover, different countries have implemented different integrated care models, which differ in their focus and population scope. For example, while some integrated care initiatives focus on the creation of multidisciplinary teams, others focus on integrating primary, secondary and tertiary care. Some key population groups for integrated care initiatives include: the elderly frail population, patients with long-term conditions, and patients with mental health problems. When studying these models, it is important to consider context because some models can be successful at integrating care in one government context, but may not be successful in another. Additionally, health and social organisations can enable 'multiple degrees of integration to coexist within a single system'. However, research suggests that many integrated care initiatives are not successful in meeting their objectives (Goodwin and Ferrer, 2013). Therefore, it is important to

recognise barriers to integrating care, and particularly when there are overlapping initiatives.

According to the definitions provided by Shortell et al. (1994) and Simoens and Scott (1999), care integration can be categorised into four types:

- **functional**: where key support back-office and non-clinical support functions and activities are integrated, e.g. financial management, strategic planning and human resources management;
- **organisational:** where organisations are brought together by formal mechanisms, e.g. creation of networks, mergers, contracting;
- **professional**: where different services are integrated at an organisational level, e.g. joint working, group practices, contracting or strategic alliances of healthcare professionals within and between institutions and organisations;
- **clinical**: where care by providers and professionals to patients is integrated into a coherent clinical process or set of processes within and / or across professions, e.g. coordination of care services for individual healthcare service users.

Care integration can be further differentiated according to the system levels it involves:

- **horizontal integration**: links services that are on the same level in the process of healthcare, e.g. general practice and community care;
- **vertical integration**: brings together organisations at different levels of a hierarchical structure under one management umbrella, e.g. primary care and secondary care.

Moreover, according to Leutz (1999), there are three levels of connection between elements of a care system across the integration continuum:

- **linkage**: organisations retain their own service responsibilities, funding and eligibility criteria, and operate through separate structures of existing health and social services systems;
- **coordination**: additional explicit structures and processes are implemented to coordinate care across various sectors, e.g. routinely shared information, discharge planning and case managers;
- **full integration**: integrated organisation/system assumes responsibility for all services, resources and funding, which may be subsumed in one managed structure or through contractual agreements between different organisations.

Despite the utility of using the above classification to represent and subdivide different models of integrated care, it should be noted that integrated care models currently feature a much higher degree of complexity and variability, and cannot always be categorised in this manner, especially when being implemented across different health systems.

The main purpose of this study was to design and validate a framework for the performance assessment of integrated care implementation that could be used by practitioners, policy-makers, academics and regulators. To inform the design of such a framework, the study began by analysing the level of penetration and adoption of integrated care across the 28 Member States, Norway and Iceland, as well as its intrinsic variability. This was done through a literature review and a mapping exercise of integrated care initiatives, which are presented in the next section (Section 3). This was followed by an analysis of the level of maturity of integrated care implementation across 12 health systems (Section 4). The data and knowledge gained from of these activities informed the selection of 14 integrated care sites to co-design the performance assessment framework. The results are presented in Section 5.

3. PART 1.A: ADOPTION AND PENETRATION OF INTEGRATED CARE IN THE 28 EU MEMBER STATES, NORWAY AND ICELAND

This section provides an overview of the results of the literature review on integrated care models, strategies and policies in the EU28, Norway and Iceland. Specifically, this literature review aimed to answer the following four questions:

- **Question 1**: What does the literature tell us about the prevalence of integrated care across the EU, Norway and Iceland?
- **Question 2**: What is the level of adoption of integrated care models in health systems across the EU, Norway and Iceland? What are the:
    - National and regional policies and strategies regarding integrated care;
    - Organisation and implementation of care delivery;
    - Payment models and mechanisms;
    - Cooperation schemes, etc.
- **Question 3**: What are the main enablers of healthcare systems where integrated care exists (to better understand the reasons for the adoption of integrated care)?
- **Question 4**: What are the main barriers to the development of integrated care?

3.1 The prevalence of integrated care across the EU, Norway and Iceland

An ageing population and the increase in the numbers of people suffering from multi-morbidity, as well as the prolonged economic crisis, leading in many cases to limited financial and human resources for care (Mladovsky et al., 2012), has driven most countries in Europe to undertake reforms in the delivery of their primary care. Other challenges identified in the literature include: advances in the healthcare offer; a hospital-centred care system; insufficient provision of community care services; lack of cooperation among health and social care providers; and fragmentation of services delivered and 'rurality' (Antunes and Moreira, 2011). Among the changes introduced, the implementation of integrated care initiatives has been seen as an effective and cost-effective way of improving quality and reducing costs (Kodner, 2009; Curry and Ham, 2010; Ham and Walsh, 2013).

From the analysis of the literature, we concluded **that integrated care is present in the 30 study countries although the characteristics, depth and breadth of penetration vary considerably.** It is important to note also that European countries initiated their respective journeys toward integrated care at different times, e.g. Finland began the implementation of integrated care policies in the 1970s, whereas Austria began the same process (at a smaller scale) in the 2000s (Mur-Veeman et al., 2008). The current diverse landscape of integrated care adoption in the 28 Member States, Norway and Iceland suggests that the level of penetration, adoption and/or maturity of integrated care in a country is not solely dependent on how long the country has been implementing integrated care policies. Indeed, there are further considerations when designing integrated care systems that have to be taken into account in order to achieve successful implementation, such as the financial design of the system; governance and stewardship

of the health system, workforce composition, roles and numbers of professionals; the characteristics of the top-down (policies, strategies) and bottom-up approaches (programmes, projects) that have been developed; programme governance models; training for managers and clinical staff, among other factors, which are discussed in more detail in subsection 3.2.

The **United Kingdom** is one of the early adopters of integrated care models. According to Humphries (2015), since the 1970s different governments have used a variety of measures to achieve closer integration of health and social care, including the creation of joint planning teams and committees and new types of organisation ('Care Trusts'), additional legal powers to pool National Health Service (NHS) and social care budgets and jointly commission services; as well as requirements for health bodies and local authorities to agree joint plans and the encouragement of local initiatives such as multidisciplinary teams and shared patient records. In 2009 the Department of Health launched a two-year pilot programme to explore and evaluate different models of integrated care. Integrated care received a further push with the coalition government's proposals for the National Health Service (NHS) reform reshaping the relationship between the NHS, local government and social care (Humphries and Curry, 2011). The Health and Social Care Act 2012 and the Care Act 2014 place duties on various organisations to promote integrated care (Humphries, 2015). In 2013, the government published its commitment to integrated care and support (NHS and partners, 2013) and named 14 'integration pioneers' across the country (Ward et al., 2016). The 'pioneer' programme has been followed by the introduction of a pooled budget – the 'Better Care Fund' – a programme of personal commissioning, and more recently the development of new models of care delivery by the NHS (Humphries, 2015). Humphries also noted that there are significant tensions between the very different policy levers and styles of implementation. Integration of care in England has received new impetus under the NHS Five Year Forward View, which anticipates a shift in the balance of care from the hospital to the community, with the aim of helping people to improve their health and better manage long-term conditions, with services being integrated around the patient (Ward et al., 2016). Published in October 2014 by NHS England, the policy document set out a strategic direction for future care in England based on seven innovative models of integrated care: (i) multispecialty community providers, (ii) primary and acute care systems, (iii) urgent and emergency care networks, (iv) acute care collaborations, (v) specialised care, (vi) modern maternity services, and (vii) enhanced care in care homes. The main objective of this NHS initiative was to initiate a process whereby local communities are supported by the NHS's national leadership to choose the care model that fits them best in terms of implementation, delivery and efficiency.

Also in the UK, the Scottish government is integrating health and social services to improve the quality and consistency of care, thereby improving health outcomes (Dedeu, 2016). The transformation, which has involved several phases, began in 1999 when 79 local healthcare cooperatives were established across Scotland. The latest stage in the journey has been the Public Bodies (Joint Working) (Scotland) Act in 2014 introducing a statutory duty for NHS boards and councils to integrate the planning and delivery of health and social care services (Petch, 2016). All integration arrangements set out in the 2014 Act needed to be in place by 1 April 2016. Moreover, the devolved government in Northern Ireland published the report *Systems, Not Structures – Changing Health and Social Care* (Department of Health, Northern Ireland) in October 2016 and identified accountable care systems as a core recommendation involving integrated provider partnerships. The report also recommends empowering local providers and communities to work in partnership and 'to plan integrated and continuous local care for the populations they serve'. It is important

to note, though, that the emphasis is on partnerships for planning the delivery of care, rather than for providing the care itself. This new direction in policy had not been implemented at the time this report was published, with the political turmoil in Northern Ireland probably playing a part in the delay in implementation.

In **Spain**, the *Strategy for Addressing Chronicity in the National Health System* (National Health System, Spain) of 2012 promotes integration of care at the level of the system and at organisational level. Integrated care has been adopted in several but not all regions, where healthcare coordination still seems to predominate over integration in the health setting (Jimenez-Martin and Vilaplana Prieto, 2012). Catalonia and the Basque Country lead in terms of the number of initiatives and population coverage. The experiences in the two regions have taken different approaches. In Catalonia, a split between purchaser and provider was promoted. Organisations known as integrated healthcare organisations (IHO), organizaciones sanitarias integradas (OSI) in Spanish, have been slowly created to manage the provision of the healthcare continuum. IHOs have been evolving over the years and, despite some common characteristics, it is possible to differentiate the organisations by their basic features such as breadth and depth of service integration along the care continuum, the emphasis on formal instruments or on coordination mechanisms, and the forms of relationship between the entities that make up the IHO. In addition to this evolution of the service model, the Chronicity Prevention and Care Programme set up by the Health Plan for Catalonia 2011–2015 has been used as an opportunity to create a new integrated care model in Catalonia (Contel et al., 2015).

In the Basque Country, in addition to the establishment of IHOs, other integrated care initiatives (projects and programmes) have been developed to improve the care of chronic diseases (Vazquez et al., 2012). The Basque Country takes a population health approach (Dueñas-Espín et al., 2016), based on the 'Strategy for tackling the challenge of chronicity in the Basque Country' (Osakidteza and Gobierno Vasco, 2010). Although Catalonia also follows some of the principles of the Basque strategy, the Basque health service has gone further than Catalonia in its approach to re-design the whole system. The report by the Expert Group on Health Systems Performance Assessment (European Commission, 2017a) notes that success factors of the Basque model include:

- Making the transformation of the healthcare model a priority health policy, with a clear vision and defined objectives;
- Creating a narrative in favour of integrated care beyond cost containment, that provides an attractive vision and structure, as well as a cohesive common understanding of where the main problems are, what are the key issues to tackle and how to do it;
- Making system-wide transformative change through well-aligned policy levers, activated in the same direction;
- Providing a right balance between top-down and bottom-up levers and the inclusion of the correct incentives as well as common objectives in health outcomes;
- Undertaking continuous evaluation of the progress of the strategy.

One of the most significant features of the implementation of integrated care in the Basque Country has been the development of population risk stratification instruments. All patients in the region are targeted by the risk stratification tool, a customised version of the Adjusted Clinical Groups Predictive Model (ACG-PM), developed at Johns Hopkins University, in use since October 2015 (European Commission, 2016).

In addition to Catalonia and the Basque Country, numerous other experiences of integration of care are emerging in other Spanish regions, such as Galicia, Andalusia, Madrid and Asturias, although the models have been less studied in the literature.

In **Germany**, by means of different healthcare acts, the government has tried to tackle the same challenges described above (population ageing, more chronic diseases and multi-morbidity) (Amelung and Wolf, 2011). Since the early 2000s, and over more than a decade, changes in the legal framework and reforms of the health system were implemented to promote innovative medical care structures in Germany. Through these, there has been a nationwide introduction of disease management programmes (DMPs), integrated care contracts, community nurse programmes, the introduction of GP-centred care contracts, and new opportunities to offer interdisciplinary outpatient care in polyclinics (Fullerton et al., 2011). According to Geraedts (2014), despite the fact that integrated healthcare services are explicitly enabled, only 10% of the population were covered by such mechanisms of healthcare delivery by the early 2010s. In 2015, the government passed the Health Care Strengthening Act with a strong patient-focused integrated care drive, offering extensive freedom of contract and allowing for need-driven and regional solutions, as well as substantial start-up funding allowing for innovative endeavours in this area (Milstein and Blankart, 2016).

In **Sweden** a number of reforms have also been implemented to support integrated care. Sweden has a Beveridge-type healthcare system with two main clusters of public providers: 21 county councils or regions and 290 municipalities. In Sweden, county councils are responsible for delivering primary and hospital care, while the municipalities are responsible for home care and institutionalised care to the elderly population (Ahgren, 2010; Anell and Glenngard, 2014). According to Ahgren (2010), due to the fragmentation in the Swedish system created by quasi-market models such as the 'choice of care' – which allows citizens to act as purchasers when choosing the primary care centre they want to be treated by – policy-makers have promoted different forms of integrated healthcare arrangements. One example is 'local healthcare', which could be described as upgraded community-oriented primary care, supported by adaptable hospital services, fitting the needs of a local population. In addition, initiatives for frail older people have been implemented in order to reduce the use of hospital care by this group (Anell and Glenngard, 2014). The focus of the reforms has been to reduce expensive use of hospital care through preventive measures, improved community services and individualised care plans among the county councils and municipalities responsible for care to the elderly.

In 2001, the **Norwegian** government introduced by law the 'Individual care Plan', giving patients the right to receive managed and coordinated care and to be involved in the process of shaping their own services (Bjerkan et al., 2011). An individual care plan in Norway includes an outline of the patient's objectives and resources as well as the services required, independent of diagnosis or age or level of care. The planning process starts as soon as requested by any party, including the patient, next of kin or legal guardian. The main function of the plan is administrative, as it makes it possible to define the goals and tasks the patient wants to achieve, specify the responsible providers and indicate a schedule or timetable. A collaborative process is essential and even professionals outside health and social care, mainly teachers, can initiate and participate in the care planning process. By 2015, the government recognised that many municipalities and hospitals have difficulties complying with the patient's legal right to an individual plan (Government of Norway, 2015).

In **Belgium**, as in the other countries, the focus has been on moving away from providing mostly expensive acute care, and measures have been implemented to adopt models of integrated care and multidisciplinary cooperation, patients' pathways, care programmes, and networks (Paulus et al., 2013). After a series of policy initiatives to tackle chronic diseases, such as the 2008 national plan 'Priorité aux malades chroniques' and the 2010 conference 'Innovative Approaches for Chronic Illnesses in Public Health and Healthcare Systems' organised by the Belgian presidency, the government in 2015 published its *Joint plan in favour of chronic patients. Integrated care for better health.* The execution of the plan includes the development of 20 pilots and has 14 components including patient empowerment; carers support; case management; concertation and coordination; multidisciplinary guidelines; and the adaptation of the funding mechanisms.

Greece has also seen several attempts to modernise and improve national healthcare services, including integrated primary healthcare (Lionis et al., 2009). According to the systematic review of integrated primary healthcare in Greece by Lionis et al., the long-standing dominance of medical perspectives in Greek health policy has been paving the way towards vertical integration, limiting discussions about horizontal or comprehensive integration of care.

According to Kokko (2009), since 1972, **Finland** has had a primary healthcare system based on health centres run and funded by the local authorities. The Finnish solution offers integrated care through multi-professional health centres that employ a large number of staff with different professional backgrounds. In recent years, however, health centres have been experiencing some difficulties and have become a fertile ground of active structural change seeking integration with specialist services and with social services. Inspired by the Swedish model of choice of provider, Finland is now undertaking reforms in its healthcare system (Tynkkynen et al., 2014). From 2019, healthcare and social welfare services are planned to be organised according to 15 healthcare and social welfare regions, with three smallest regions having to merge services with larger neighbouring regions. It remains to be seen if the model proposed, which gives patients more choice, increases competition between public and private service providers, and simplifies funding sources, will help to achieve better service integration.

In the **Netherlands**, the introduction of an integrated payment system in 2010 has been perceived as the cornerstone of a policy stimulating the development of a well-functioning integrated chronic care system (Tsiachristas et al., 2011). With the introduction of the Health Insurance Act (Zvw) of 2006, health insurers are required to offer a standard package of basic healthcare insurance to every applicant, regardless of pre-existing condition, and it is also mandatory for every citizen to have at least a basic benefit package. This framework was developed with the aim of stimulating the integration of chronic care; however, according to Tsiachristas et al., integration of care ended up being dependent on whether or not a patient had voluntary supplementary insurance. Among other barriers to the implementation of care, the integrated payment model introduced by the Dutch Ministry of Health includes a reimbursement system offering an 'all-inclusive' payment for people with chronic conditions to multidisciplinary teams providing care for these patients. Under this payment system, chronic care is coordinated by groups of providers in the Netherlands.

In **Italy** the universal National Health System is organised at three levels: the national level, 21 regions, responsible for the organisation and governance of the system, and local organisations (local health units, LHUs) delivering services (Calciolari and Ilinca, 2016). Each LHU is responsible for hospital and community care services, with an institutional

orientation toward their coordination. According to Calciolari and Ilinca, in the last decade a number of legislative interventions have been implemented in Italy to foster the coordination and integration of health and social services. National initiatives are complemented by regional ones, notably in Emilia-Romagna, Veneto and Lombardy.

In addition to the national overviews presented above, a number of pan-European reports, projects and databases have been compiling, mapping and describing integrated care initiatives in all other EU Member States as well as Iceland. Antunes and Moreira (2011) reported integrated care initiatives in the UK, Germany, Finland, Sweden, Austria, Spain, the Netherlands, Ireland, Portugal, Denmark, France, Greece, Italy, Norway and Poland. Noordman et al. (2015) have mapped out 119 care programmes in Europe targeting patients with multi-morbidity that can be characterised as integrated care programmes.[2] Spain is the country with the highest number of initiatives identified in the report, but programmes have also been identified in the following countries: Austria, Bulgaria, Croatia, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovenia, Sweden, Switzerland and the United Kingdom. Of the 119 programmes identified, 101 of them have been compiled by the EU Health Programme funded project ICARE4EU.[3]

Building also on initiatives such as ICARE4EU or the EIPonAHA, the WHO European Region has described health services delivery transformations in each of its 53 Member States in the report 'Lessons from transforming health services delivery: compendium of initiatives in the WHO European Region' (WHO, 2016). Several of these initiatives are about care integration in the following countries: Austria, Belgium, Bulgaria, Croatia, Estonia, Ireland, Italy, Lithuania, the Netherlands, Romania, Slovenia, Slovakia, Sweden and the UK. The compendium is linked to the WHO Framework on integrated people-centred health services (IPCHS) (WHO, 2015), and is also supported by a database[4] created to facilitate knowledge exchange and interaction among stakeholders around the five strategies proposed by the Framework:

- Engage and empower people and communities to take an active role in their health and health system.
- Strengthen governance and accountability to build legitimacy and trust.
- Reorient health services to ensure that care is provided in the most appropriate setting and maximises health outcomes.
- Strengthen the coordination of care across providers, organisations, care settings and beyond the health sector to include social services and others.
- Create an enabling environment to facilitate transformational change.

With regard to the variety of integrated care payment schemes in Europe, such as PFC (pay-for-coordination), PFP (pay-for-performance) and bundled payments, Tsiachristas et al. (2013) reported that Austria, France, England, the Netherlands and Germany have implemented payment schemes that are designed to promote the integration of chronic

[2] Most of the programmes identified come from the ICare4EU project and all the programmes listed in this report as well as the ICARE4EU website have been reviewed for Task 3 of this study.
[3] See: http://www.icare4eu.org/
[4] Available from: http://www.integratedcare4people.org/

care. The implemented payment schemes targeted different stakeholders in different countries depending on the structure of each individual health system. Moreover, the implementation of different payment schemes was perceived in different ways for specific aspects of each health system: the PFC implementation in Austria, Germany and France was perceived as the most successful in increasing collaboration within and across healthcare sectors; PFP implementations in England and France were instead perceived as the most successful with regard to the improvement of other indicators of quality of care. Overall, Tsiachristas et al. concluded that the success of a payment scheme implementation is highly dependent on the specific details of the health system of a country. However, it was also noted that an implementation focusing on the combination of different schemes may be more effective at overcoming the barriers of each individual scheme.

3.2 The level of adoption of integrated care models in health systems across the EU, Norway and Iceland

In the context of the Mapping of integrated care initiatives presented in detail in section 3.4, a total of 71 integrated care policies and strategies have been retrieved. The characteristics of these policies and strategies are diverse throughout the 28 Member States, Norway and Iceland, which is also an indication of the great variability in the adoption of integrated care across the 30 study countries. The objectives and scopes of integrated care policies and strategies vary across countries with respect to several domains, e.g. geographical scope (*national versus regional*), care components being integrated, and clinical conditions, as well as type (*functional, organisational, professional, clinical*), level (*vertical, horizontal*) and degree (*linkage, coordination, full integration*) of integration. However, similarities were also noted in the integrated strategies and policies across countries, such as an overarching focus on chronic care and multi-morbidity.

In **Spain**, in addition to the *Strategy for Addressing Chronicity in the National Health System* mentioned above, seven strategies and one policy were identified and included for review, all at the regional level and including the Basque Country, Murcia, Andalusia and Valencia regions.[5,6,7,8,9,10,11] Three strategies were of particular interest in this context given their population-level scope: *Population Intervention Plans* and the *Chronicity Strategy,* both in the Basque Country; and *The Strategy for Chronic Care in Valencia Region* (Barbarella et al., 2015), focusing on a regional-level integration of health and social care with the purpose of improving the quality of chronic care and tackling multi-morbidity.

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[5] Basque Strategy for tackling the challenge of chronicity, accessed from http://cronicidad.blog.euskadi.net

[6] The Strategy for Chronic Care in Valencia Region, accessed from http://www.icare4eu.org/pdf/Case_report_%20Valencia__final.pdf

[7] Andalusian eHealth Strategy & System, accessed from https://ec.europa.eu/eip/ageing/repository/andalusian-ehealth-strategy-system-diraya_en

[8] Malnutrition in the elderly and hospital stay, accessed from https://ec.europa.eu/eip/ageing/repository/malnutrition-elderly-and-hospital-stay_en

[9] Euskadi Lagunkoia, accessed from https://ec.europa.eu/eip/ageing/repository/euskadi-lagunkoia-age-friendly-basque-country_en

[10] FEDON, accessed from https://www.nivel.nl/sites/default/files/bestanden/Rapport-CHRODIS.pdf

[11] Population intervention plans (PIPS), accessed from https://www.nivel.nl/sites/default/files/bestanden/Rapport-CHRODIS.pdf

In similar fashion, a wide variety of regional-level integrated care initiatives was found in **Italy and in the UK**, mostly at the intervention and model levels. However, three Italian[12,13,14] and four UK[15,16,17,18] policies and strategy were retrieved, mostly with a focus on preventive health.

In **Portugal**, only one national-level integrated care policy (and three strategies underlying it[19,20,21]) was retrieved: Law Decree n 101/2006 of 6 June – National Network of Continued Integrated Care.[22] In contrast to the highly geographically fragmented integrated care initiatives in Spain, the Portuguese national network for continued integrated care is a general, national-level policy that aims at integrating health and social care exclusively for people who, regardless of their age, lack autonomy in their lives due to disease.

A total of four national-level strategies were retrieved in **Bulgaria**, all with a specific target population and a focus on the integration of health and social care services: National Strategy for Chronic Care,[23] National Strategy for People with Disabilities (2016–2020),[24] National Strategy for the Child (2008–2018),[25] and National Health Strategy (2014–2020).[26] The same applies for the national-level policy retrieved in **Malta,** the Mental Health Act.[27]

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[12] See: https://ec.europa.eu/eip/ageing/repository/regional-plan-prevention-heat-related-health-effects-lazio-region_en

[13] See: http://platform.chrodis.eu/clearinghouse?id=1405

[14] Expert Group on Health Systems Performance Assessment, *Blocks. Tools and methodologies to assess integrated care in Europe,* 2017. Available from: http://ec.europa.eu/health/sites/health/files/systems_performance_assessment/docs/2017_blocks_en_0.pdf

[15] Integration of health and social care in Scotland

[16] Building capacity and competency of staff using technology – Telehealthcare, Education and Training Strategy

[17] Tobacco Free Ireland, accessed from: http://platform.chrodis.eu/clearinghouse?id=2601

[18] Leeds, accessed from https://www.kingsfund.org.uk/topics/integrated-care/integrated-care-map

[19] Guia prático – Rede nacional de cuidados continuados integrados (Instituto da segurança social), accessed from: http://www.seg-social.pt/documents/10152/27187/rede_nacional_cuidados_continuados_integrados_rncci

[20] Plano de desenvolvimento da RNCCI 2016-2019, accessed from: https://www.sns.gov.pt/wp-content/uploads/2016/02/Plano-de-desenvolvimento-da-RNCCI.pdf

[21] National Programme for the prevention and control of Diabetes (Programa Nacional para a Diabetes), accessed from: https://www.dgs.pt/programa-nacional-para-a-diabetes.aspx

[22] Decreto-Lei n101/2006 de 6 de Junho – Rede nacional de cuidados continuados integrados: http://www.inr.pt/bibliopac/diplomas/dl_101_2006.htm

[23] See: http://www.strategy.bg/StrategicDocuments/View.aspx?lang=bg-BG&Id=882

[24] See: https://www.mlsp.government.bg/index.php?section=POLICIESI&lang=&I=282

[25] See: http://sacp.government.bg/bg/za-agenciyata/politiki/strategii-i-programi/

[26] See: https://www.mh.government.bg/bg/politiki/strategii-i-kontseptsii/strategii/nacionalna-zdravna-strategiya-2020/

[27] Mental Health Act

A wide variety of integrated care strategies and policies were found in the **Scandinavian countries (Norway**[28]**, Sweden**[29]**, Denmark**[30]**), Iceland**[31,32,33,34] **and Finland,**[35,36,37,38,39,40,41,42] covering a wide range of topics, for example integration of social care and healthcare in the context of home rehabilitation for chronic patients, eHealth-driven health records integration and health pathway management, mental health, and integration of social and healthcare services for young patients. While the majority of integrated care policies and strategies in Denmark, Norway and Iceland were found to operate at the national level, this is not the case for Finland, in which a more balanced collection of regional- and national-level integrated care policies and strategies were retrieved. Examples of these regional policies are the Kainuu Social and Health Care Joint Authority (Kainuun sote), the North and South Karelia District of Social and Health Services (Siun note and Essote), and the Programme to address reform in child and family services (LAPE).

The majority of integrated care strategies and policies retrieved in Eastern European Member States are at national level; this is the case for **Lithuania**[43,44,45,46]

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[28] The Norwegian Coordination Reform, accessed from: https://www.regjeringen.no/no/tema/helse-og-omsorg/helse--og-omsorgstjenester-i-kommunene/samhandlingsreformen/id680424/

[29] Fundamental values in elderly care, accessed from: https://ec.europa.eu/eip/ageing/repository/%C3%A4ldreomsorgens-v%C3%A4rdegrund-fundamental-values-elderly-care_en

[30] SAM:BO Cooperation of care pathways in the Region of Southern Denmark, accessed from: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC94488/jrc94488.pdf

[31] Unlocking the full potential of Landspitali University Hospital, accessed from https://www.velferdarraduneyti.is/media/skyrslur2016/Lykill-ad-fullnytingu-taekifaera-Landspitalansb.pdf

[32] Joint Action on Chronic Diseases, accessed from: http://chrodis.eu/wp-content/uploads/2014/10/JA-CHRODIS_Iceland-country-review-in-the-field-of-health-promtion-and-primary-prevention.pdf

[33] Health Policy to year 2010, accessed from https://www.velferdarraduneyti.is/media/Skyrslur/htr2010.pdf

[34] Integration of mental health, accessed from: http://www.althingi.is/altext/pdf/145/s/1217.pdf

[35] Health, social services and regional government reform, accessed from: http://alueuudistus.fi/en/frontpage

[36] The South Karelia District of Social and Health Services (EKSOTE) , accessed from http://www.eksote.fi/sites/eng/Sivut/default.aspx

[37] A house for children and youth (EKSOTE), accessed from https://www.innokyla.fi/web/verstas2034019/etusivu/-/verstas/perustiedot

[38] The North Karelia District of Social and Health Services (Siun sote), accessed from: http://www.siunsote.fi/fi/web/guest/

[39] The South Savonia District of Social and Health Services (EKSOTE), accessed from: http://www.essote.fi/

[40] The Kainuu Social and Health Care Joint Authority (Kainuun sote), accessed from: Kainuun sote, homepage http://sote.kainuu.fi/index.asp

[41] Programme to address reform in child and family services (LAPE), accessed from: http://stm.fi/lapsi-ja-perhepalvelut/materiaalit

[42] Municipal experiments, youth guarantee, accessed from: https://www.innokyla.fi/kuntakokeilut/nuorisotakuu

[43] Integrated social care and nursing service model, accessed from: https://www.e-tar.lt/portal/lt/legalAct/TAR.3AA539F6BA6F

[44] Telemedicine services providing procedure, accessed from: https://www.e-tar.lt/portal/lt/legalAct/4261443088ac11e397b5c02d3197f382

[45] Lithuania health programme for 2014–2025 year, accessed from: http://www.lvsa.lt/uploads/Lietuvos%20sveikatos%202014-2025%20programa.docx

[46] Requirements for palliative care services for adults and children, accessed from: https://www.e-tar.lt/portal/lt/legalAct/TAR.00CD30AC2BB1

Poland[47,48,49,50,51], **Slovenia,**[52,53,54,55,56,57,58] **Slovakia,**[59] **Hungary,**[60,61,62] **Croatia**[63] **and Romania.**[64,65] In some countries, it was also possible to identify integrated care strategies and policies in these countries at regional or local level such as the Healthy Krakow 2013–2015 strategy in Poland, and the 'Age Friendly Ljubljana' Action plan in Slovenia. Specifically, integrated care policies and strategies in Lithuania and Hungary focus on the integration of social and health services through the use of telemedicine and eHealth solutions – this is highlighted in the Lithuania Health programme for 2014–2015[66] and the procedure for providing telemedicine services, as well as in the Healthy Hungary Health

[47] Healthy Krakow 2013–2015, accessed from: https://ec.europa.eu/eip/ageing/repository/healthy-krakow-2013-2015_en

[48] Description of the project of integrated care in Poland, accessed from: http://akademia.nfz.gov.pl/wp-content/uploads/2016/04/OOK-NFZ_Intro_KWiktorzak.pdf

[49] Projekt ustawy o podstawowej opiece zdrowotnej' 'Draft law on basic health care', accessed from: http://legislacja.rcl.gov.pl/docs//2/12293658/12403126/12403127/dokument265845.pdf

[50] Health care strategic plan – with references to integration of care, accessed from: http://www.rpo.wzp.pl/sites/default/files/pliki/9_program_strategiczny_-_ochrona_zdrowia.pdf

[51] National Mental Health Programme, accessed from: http://www.mz.gov.pl/wp-content/uploads/2015/01/npoz_zdrpub_03112011.pdf

[52] Action plan age friendly Ljubljana, accessed from: https://ec.europa.eu/eip/ageing/repository/action-plan-age-friendly-ljubljana_en

[53] Resolution on the National Health Care Plan 2016–2025, accessed from: http://www.pisrs.si/Pis.web/pregledPredpisa?id=RESO102

[54] National Cancer Control Programme, accessed from: http://www.dpor.si/en/

[55] Diabetes Prevention and Care Development Programme 2010–2020, accessed from http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/mz_dokumenti/delovna_podrocja/javno_zdravje/diabetes/National_Diabetes_Prevention_and_Care_Development_Programme.pdf%20(data%20extraction%20can%20be%20done%20based%20on%20the%20following%20document:SINposb2010)

[56] National Palliative care plan, accessed from: http://imss.dz-rs.si/imis/f471a93ad2f6d7501de7.pdf

[57] Strategy for Dementia control in Slovenia, accessed from: http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/Demenca/12092016_strategija_obvladovanja_demence.pdf

[58] Marušič, D., Simčic, B. (2009). Priročnik za oblikovanje kliničnih poti. Available from: http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/kakovost/Klinicne_poti/prirocnik_OBLIKOVANJE_KP_slo_170310.pdf

[59] Integrated centre of care, accessed from: http://www.health.gov.sk/Sources/Sekcie/IZP/ENG_Implementation%20strategy-IHCC-monitor-comm.pdf

[60] Semmelweis Plan, accessed from http://2010-2014.kormany.hu/download/5/e7/30000/Semmelweis%20Terv%20az%20eg%C3%A9szs%C3%A9g%C3%BCgy%20megment%C3%A9s%C3%A9re%20-%20Szakmai%20koncepci%C3%B3.pdf

[61] Healthy Hungary Health Strategy 2014–2020, accessed from: http://www.kormany.hu/download/e/a4/30000/Eg%C3%A9szs%C3%A9ges_Magyarorsz%C3%A1g_e%C3%BC_strat%C3%A9gia_.pdfhttps:/net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A16H1886.KOR&timeshift=fffffff4&txtreferer=00000001.TXT

[62] Semmelsweis Plan for the Rescue of Health Care, accessed from the Semmelweis Plan report

[63] Palliative Care System, accessed from http://www.selfie2020.eu/wp-content/uploads/2016/12/SELFIE_WP2_Croatia_Final-thick-descriptions.pdf

[64] Law nr 95/2006 regarding the reform in the health care system/ Title IV Emergency medical care (policy), accessed from http://www.cdep.ro/pls/legis/legis_pck.htp_act_text?idt=72105

[65] National Strategy for palliative services (model/strategy), accessed from http://www.studiipaliative.ro/proiecte/sistem-integrat-de-servicii-de-ingrijiri-paliative-eea/

[66] Lithuania health program for 2014–2025, accessed from: http://www.lvsa.lt/uploads/Lietuvos%20sveikatos%202014-2025%20programa.docx

Strategy 2014–2020 and the Semmelweis Plan.[67] In Poland, however, integration of social and healthcare services is not mentioned in the integrated care policies and strategies retrieved. Instead, the main focus of these strategies and policies is on clinical integration (including preventive medicine), chronic care and mental health. With regard to Slovenia, five integrated care strategies and one policy were retrieved that reflect an all-encompassing approach to condition-specific integration of health and social services, as highlighted in the Resolution on the National Health Care Plan 2016–2025,[68] National Cancer Control Programme,[69] Strategy for Dementia Control[70] and Diabetes Prevention and Care Development Programme 2010–2020.[71]

Integrated care policies and strategies in **Belgium, Luxemburg and the Netherlands** also reflect an all-encompassing approach to the integration of health and social care. This is highlighted both in the Dutch Groningen Active Ageing local strategy[72] and in the in the Belgian national-level Integrated care for better health plan.[73] The latter represents a shared vision and strategy of both the federal government and the federated entities to the digitally enabled integration and management of health and social care pathways. Additional care components are also addressed by other strategies and policies, such as the regional-level Flanders Care strategy,[74] the 'Conventions' agreement for functional rehabilitation[75] and the Integrated care projects in the mental health sector policies.[76] Similarly, in Luxembourg, the one policy[77,78] and one strategy[79] retrieved show an advanced approach to integrated care.

The general vision for the development and further implementation of integrated care in **Germany** is summarised by three national-level policies focusing on the integration of health and social care, as well as innovative approaches to the management of health

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[67] Semmelweis Plan, accessed from http://2010-2014.kormany.hu/download/5/e7/30000/Semmelweis%20Terv%20az%20eg%C3%A9szs%C3%A9g%C3%BCgy%20megment%C3%A9s%C3%A9re%20-%20Szakmai%20koncepci%C3%B3.pdf

[68] Resolution on the National Health Care Plan 2016–2025, accessed from: http://www.pisrs.si/Pis.web/pregledPredpisa?id=RESO102

[69] National Cancer Control Programme, accessed from: http://www.dpor.si/en/

[70] Strategy for Dementia control in Slovenia, accessed from: http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/Demenca/12092016_strategija_obvladovanja_demence.pdf

[71] Diabetes Prevention and Care Development Programme 2010–2020, accessed from http://www.mz.gov.si/fileadmin/mz.gov.si/pageuploads/mz_dokumenti/delovna_podrocja/javno_zdravje/diabetes/National_Diabetes_Prevention_and_Care_Development_Programme.pdf%20(data%20extraction%20can%20be%20done%20based%20on%20the%20following%20document:SINposb2010)

[72] Groningen Active Ageing Strategy: a sustainable dutch approach to enhance active ageing in community-dwelling older people living in deprived neighbourhoods, accessed from: https://ec.europa.eu/eip/ageing/repository/groningen-active-ageing-strategy-sustainable-dutch-approach-enhance-active-ageing_en

[73] Integrated care for better health plan, accessed from: https://www.zorg-en-gezondheid.be/beleid-eerstelijnszorg

[74] Flanders Care, accessed from: https://ec.europa.eu/eip/ageing/repository/flanders-care_en

[75] 'Conventions' (agreement) for functional rehabilitation

[76] Integrated care projects in the mental health sector, accessed from http://www.psy107.be/

[77] 'Médecin referent'

[78] Mental Health Act

[79] Developing a national cancer plan to coordinate the fight against cancer in Luxembourg, accessed from: http://www.euro.who.int/__data/assets/pdf_file/0014/303026/Compendium-of-initiatives-in-the-WHO-European-Region-rev1.pdf?ua=1

records and payment systems: Innovation Fund – The Care Provision Strengthening Act (GKV-Versorgungsstärkungsgesetz),[80] Discharge management (section 39 subs 1a of SGB V),[81] and 'Short-time care as a new service reimbursed by the statutory health insurance system.[82] The multidisciplinary element of these policies is further highlighted in the Interdisziplinäre Notaufnahmen strategy (Bonzel, 2010), which looks to create interdisciplinary emergency departments as self-standing departments in hospitals in order to guarantee rapid and wholesome care for patients.

3.3 Main barriers to and enablers of the development of integrated care

These two questions (i.e. review questions 3 and 4) have been addressed together. The barriers and enablers of integration are the opposite sides of the same coin; that is, political support and commitment can act as both an enabler if it is positive and directed in the right way or a barrier if it is absent or directed in a way that does not support the development of integrated care at scale. Most studies refer to organisational/system-level or interpersonal-level barriers and facilitators (see for example Mudathira and Paul, 2015; Friedman et al., 2016; Bamford et al. 2014; Hutchinson, 2015), while none of the papers reviewed in the first stage of the study refer to barriers or facilitators at policy level. Among the barriers highlighted by the literature reviewed are, for example:

- Organisational/system barriers such as:
    - lack of cooperation between organisations, teams or professions;
    - lack of resources, wrong incentive structure in place and fragmented budgets;
    - lack of visionary leadership, lack of interest and commitment from leadership, high leadership turnover, not enough continuity;
    - underutilised information technology, incompatibility of information;
    - administrative burden.
- Professional barriers such as:
    - disbelief in the competence of others, high case load and unrealistic expectations, boundary crossing;
    - unclear allocation of responsibilities, lack of knowledge, lack of feedback among teams;
    - inadequate training;
    - lack of guidelines, suboptimal clinical engagement.

[80] Innovation Fund – The Care Provision Strengthening Act (GKV-Versorgungsstärkungsgesetz)
[81] Discharge management (section 39 subs 1a of SGB V)
[82] Short-time care as a new service reimbursed by the statutory health insurance system

The enablers often refer to the reverse situation that has been highlighted as a barrier. This way, strong commitment and the establishment of collaborative networks, as well as good communication and leadership, are facilitators of integrated care.

In the analysis of factors enabling successful integration of care and readiness for integration, the Expert Group on Health Systems Performance Assessment (European Commission, 2017a) has identified the following facilitators:

- Political support and commitment: creating a compelling vision and strategy for integrated care with clearly defined objectives that is embedded in national or regional policy significantly determines the success of integrated service delivery models.
- Governance: strong governance mechanisms at national and/or local level and among the private service providers and the care authorities/actors involved.
- Stakeholder engagement: stakeholder engagement needs to happen at all levels and across all relevant sectors. Strong clinician collaboration, engagement of policy actors, participation of municipalities, voluntary and statutory organisations, involvement and reflection on the opinions of patients and citizens and commitment and cooperation between health and social care professionals are essential for the implementation of integrated care solutions.
- Organisational change: the provision of integrated care and service redesign implies changes in the healthcare structures, organisation of workflows, workforce development and resource allocation; for example: establishing horizontal integration and collaboration between GPs and other health and social care providers; building partnerships and cross-sectoral cooperation of health and social care providers to establish standards assessments, technical and clinical protocols; or redesigning of professional roles and the provision of new or extended roles for health and social care professionals, among others.
- Leadership: effective national/regional leadership and the emergence of local leaders or champions are important factors in managing the complex transformation and implementation of integrated care solutions.
- Collaboration and trust: collaboration and trust among stakeholders to undertake the broad set of changes needed to deliver integrated care at a regional or national level.
- Workforce education and training: new roles need to be created and new skills need to be developed to deal with the transformation that the care system requires.
- Patient focus / empowerment: patient empowerment needs to be at the core of integrated care. This implies that the patients are members of the care team, involved in the decision-making processes, and that care plans are tailored to patients' individual needs.
- Financing and incentives: integrated care requires initial investment, operational funding during the transition to the new models of care, and sufficient ongoing financial support and incentives until the new services are fully operational. Well-established incentives, financing and reimbursement schemes to allow alignment of the financial interests of payers and providers in the system enable the implementation of integrated care delivery.
- ICT infrastructure and solutions: integrated care requires sharing of health information and care plans across diverse care teams and sectors to enable

continuous collaboration, measuring and managing outcomes, and enabling citizens to take a more active role in their care.

- Monitoring / evaluation systems: transformation of the care pathways and services to support integrated care need to be monitored and evaluated to ensure that the changes have the desired effect on quality of care, cost of care, access and citizen experience.

However, as pointed out in the HSPA report, and highlighted also in conversations with stakeholders throughout the present study, political support and commitment and a clear strategy and policy at national or regional level are foundational to enable integrated care at the level of the health system. Although bottom-up approaches are important and several have been successful in achieving integrated care, for example in the Netherlands, a top-down approach is also necessary to create an enabling environment and the conditions that accelerate the spread and adoption of integrated care at scale. The study of the literature analysing the barriers and enablers of integrated care has not focused very much on policy-level levers because it has predominantly studied discrete interventions, programmes or models, which may or may not have emerged in the context of a policy or strategy for the implementation of integrated care. Many have taken this direction in the context of improvement policies for primary care, but often leaving out the community, social and informal care elements of whole-system integrated care. Often as well, the implementation of integrated care has focused on particular conditions (e.g. chronic care) or population groups (e.g. the elderly), without a clear roadmap to achieve whole-system integration or a population health management approach.

3.4 Mapping of integrated care initiatives in EU28, Norway and Iceland

This section summarises the key findings regarding the analysis of the spread of implementation of integrated care in Europe. This research exercise involved an extensive mapping of strategies, policies, initiatives, programmes, projects, models and interventions that have been adopted in the 28 Member States, Norway and Iceland as part of the implementation of integrated care. Specifically, this mapping exercise looked to provide: (i) a generalised analysis of the data collection results; (ii) a more detailed account of the current state of integrated care implementation across the 30 countries, including a breakdown of integrated care initiatives by geographical scope. It is worth noting that the results presented in this section represent a summary of the dataset retrieved.[83]

Table 1 explains how the initiatives have been categorised when carrying out the mapping of Integrated Care across the 30 study countries.

[83] The full dataset is provided in the attached *Repository of Integrated Care Initiatives*, Annex 1.

Table 1: Types of initiatives considered in the mapping of integrated care

Type of initiative	Definition
Policy	The information retrieved refers to the national or regional government's vision for integrated care and/or explains what the legislative framework is.
Strategy	The information retrieved explains what the plan for the implementation of the national or regional government's policy for integrated care is. It is possible that the same document refers to policy and strategy.
Organisation	The information retrieved relates to a particular organisation providing or commissioning integrated care.
Programme or Model	The information retrieved refers to a programme or model for delivering integrated care. Programmes would probably be implemented in a small region or locality, when compared to models.
Intervention/Project	The information retrieved refers to a specific integrated care project or intervention. This could refer to an intervention on a specific population affected by one or more conditions, for example an integrated care intervention for elderly people suffering from diabetes, high blood pressure or COPD.

Through the mapping, a total of 660 initiative identified was collected. Following an internal validation of the team, a total of 550 were confirmed to be integrated care initiatives (of which 343 had a complete set of data (referred to as 'complete data set' in Figure 1) and 207 had some data missing (referred to as 'incomplete data set' in Figure 1), and 110 initiatives were excluded because further research has shown that they were not integrated care policies, strategies, organisational, programmes, or projects.

The average number of initiatives per country is *c.* 18, with a standard deviation of 16.3, thus illustrating the great variability in the current state of integrated care implementation across the 30 countries. The countries with the highest number of recorded integrated care initiatives are United Kingdom (60), Spain (58), Slovakia (47), Norway (45), Italy (33) and the Czech Republic (33), respectively. Conversely, the five countries with the lowest number of recorded integrated care initiatives are Malta (0), Austria (1), Luxembourg (1), Cyprus (2), Ireland (3) and Latvia (3) respectively.

The figures presented need to be considered with caution and only as an indication of the number of initiatives identified in each country. Although the data collection was extensive and as comprehensive as possible, the mapping and, subsequently, the Repository developed in Excel are not exhaustive. These general findings are illustrated in Figure 1.

Categorised according to the definitions presented in Table 1, the most common types of integrated care initiatives are *interventions* and *models*; the least common types of integrated care initiatives are *policies* and *strategies*. The percentage of integrated care initiatives categorised as *interventions* was found to be higher in countries associated with geographically fragmented health systems, e.g. Spain and Italy. Conversely, countries with traditionally more centralised health systems (e.g. Greece, Hungary) were found to

have a higher percentage of *policies*. A breakdown of types of recorded integrated care initiatives per country is provided in Figure 2.

Figure 1. Number of integrated care initiatives across the 28 EU Member States, Norway and Iceland

N/A refers to initiatives that have not been categorised due to insufficient information

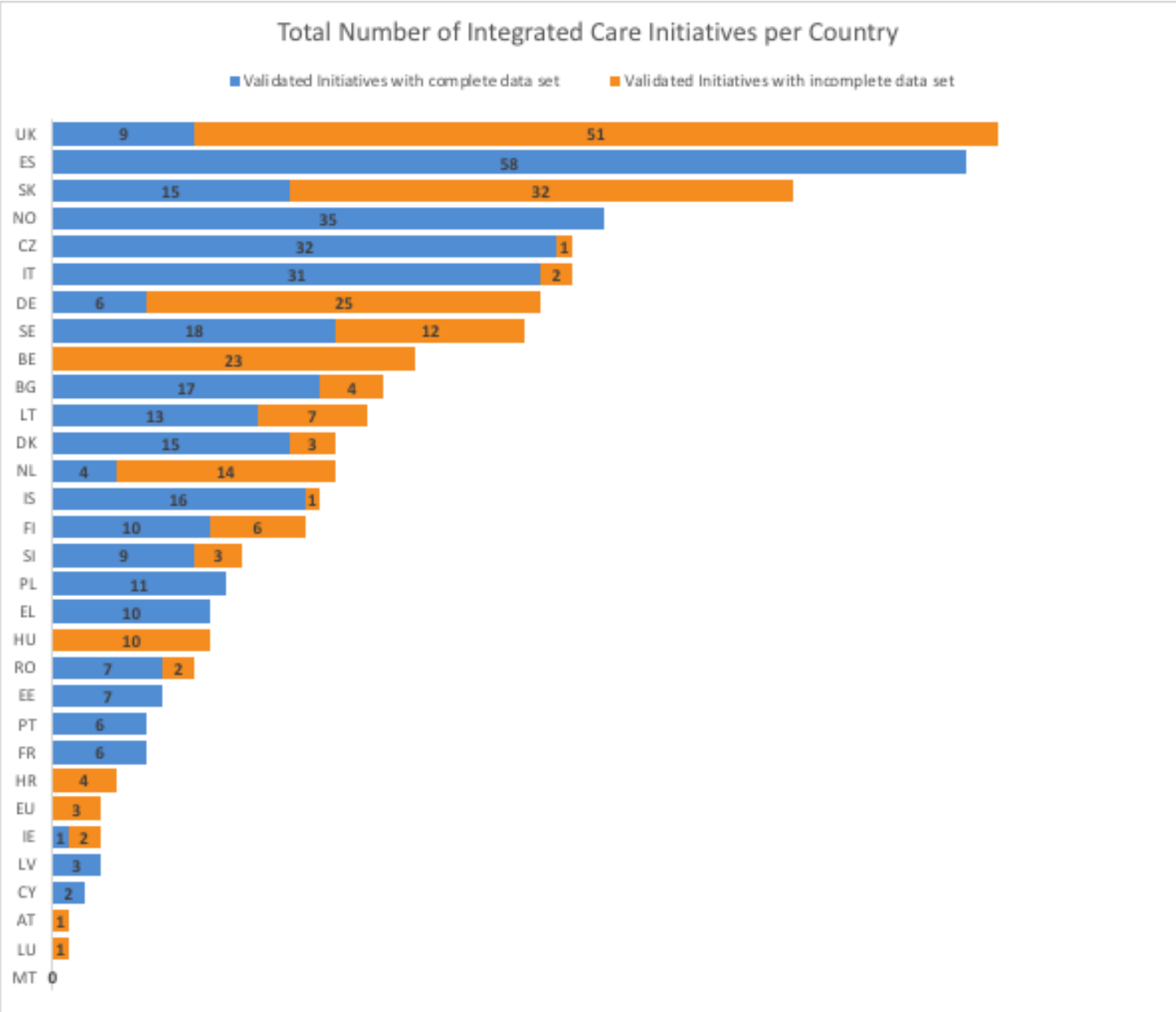
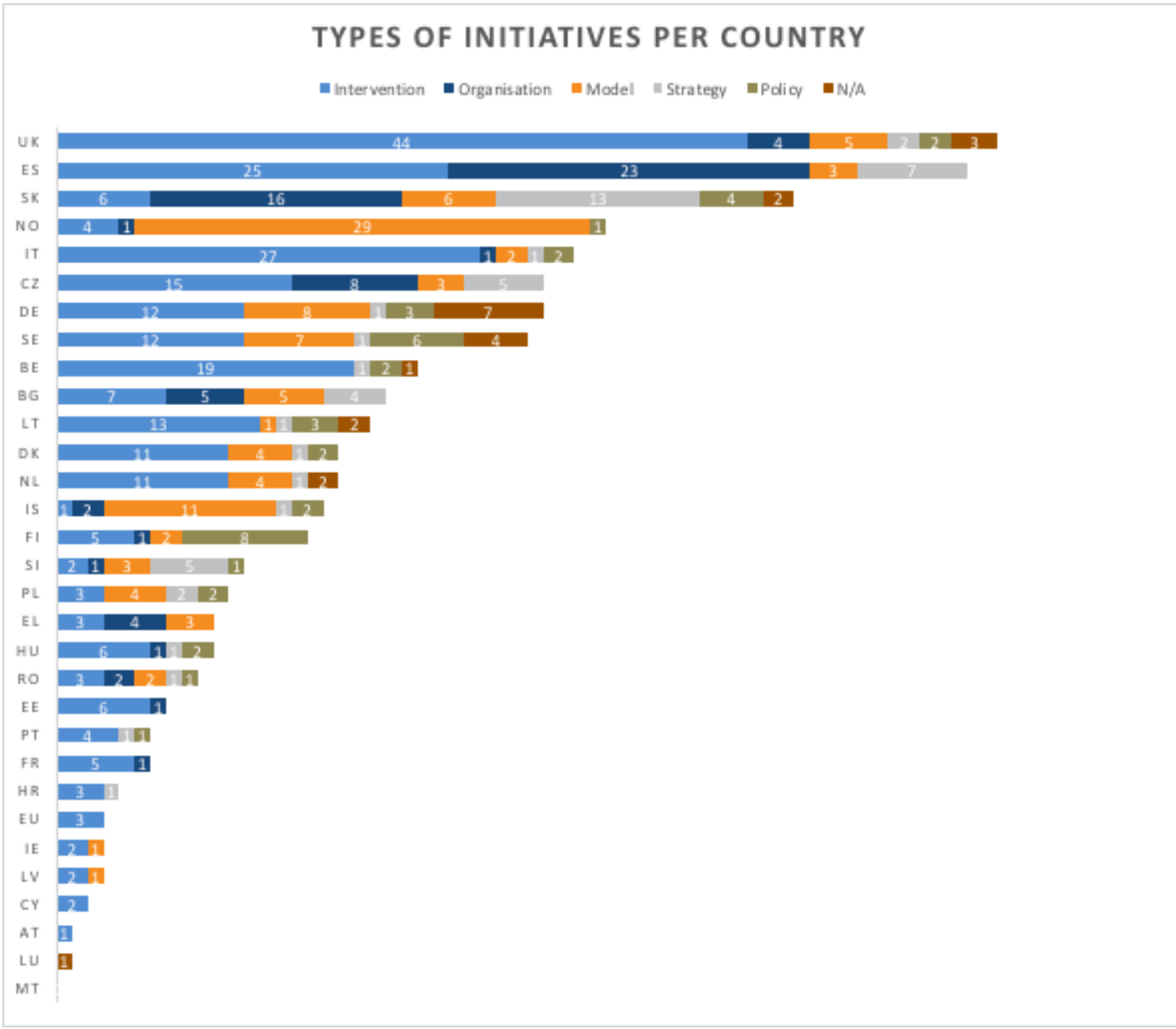


Figure 2. Breakdown of recorded integrated care initiatives across the EU 28 Member States, Norway and Iceland by type of initiative



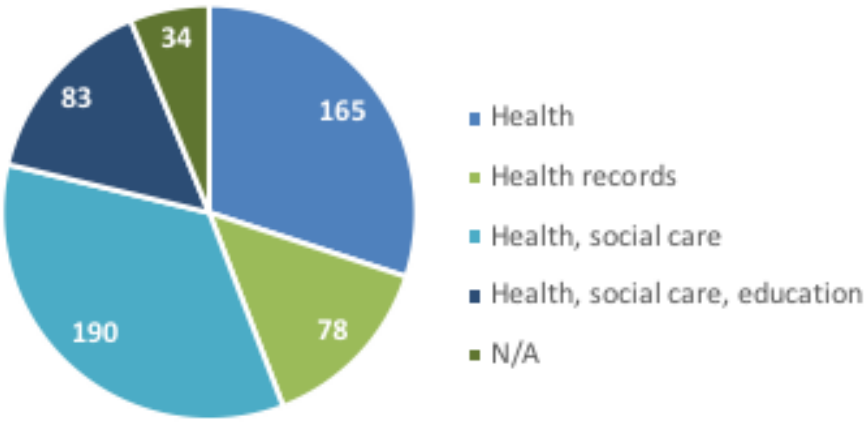
N/A refers to initiatives that have not been categorised due to insufficient information

In addition to the type of initiatives, information was retrieved on the characteristics of integrated care programmes, models or projects across all the study countries. For example, information recorded includes:

- Care components covered by the initiative, e.g. healthcare, social care, health records, education, and / or mental health;
- The geographical scope (national, regional or local);
- The status of the initiative (ongoing, or completed);
- The organisations affiliated with the initiative;
- The conditions and diseases targeted by the initiative;
- The age groups targeted by the initiative;
- Budget allocated to the initiative;
- The estimated number, or range, of people that have access to the components provided by the initiative.

The identification of the main care components was carried out with the objective of understanding if integration of healthcare with social care and other components (e.g. health records, education) is common across the 30 countries. Indeed, integration of health and social care was the most common integration of care component in the initiatives recorded while conducting the mapping of initiatives, followed by the integration of different services within the healthcare domain. A breakdown of the different care components being integrated in the recorded initiatives is presented in Figure 3.

Figure 3. Breakdown of recorded integrated care initiatives across the 28 Member States, Norway, and Iceland by care components being integrated



N/A refers to initiatives that have not been categorised due to insufficient information

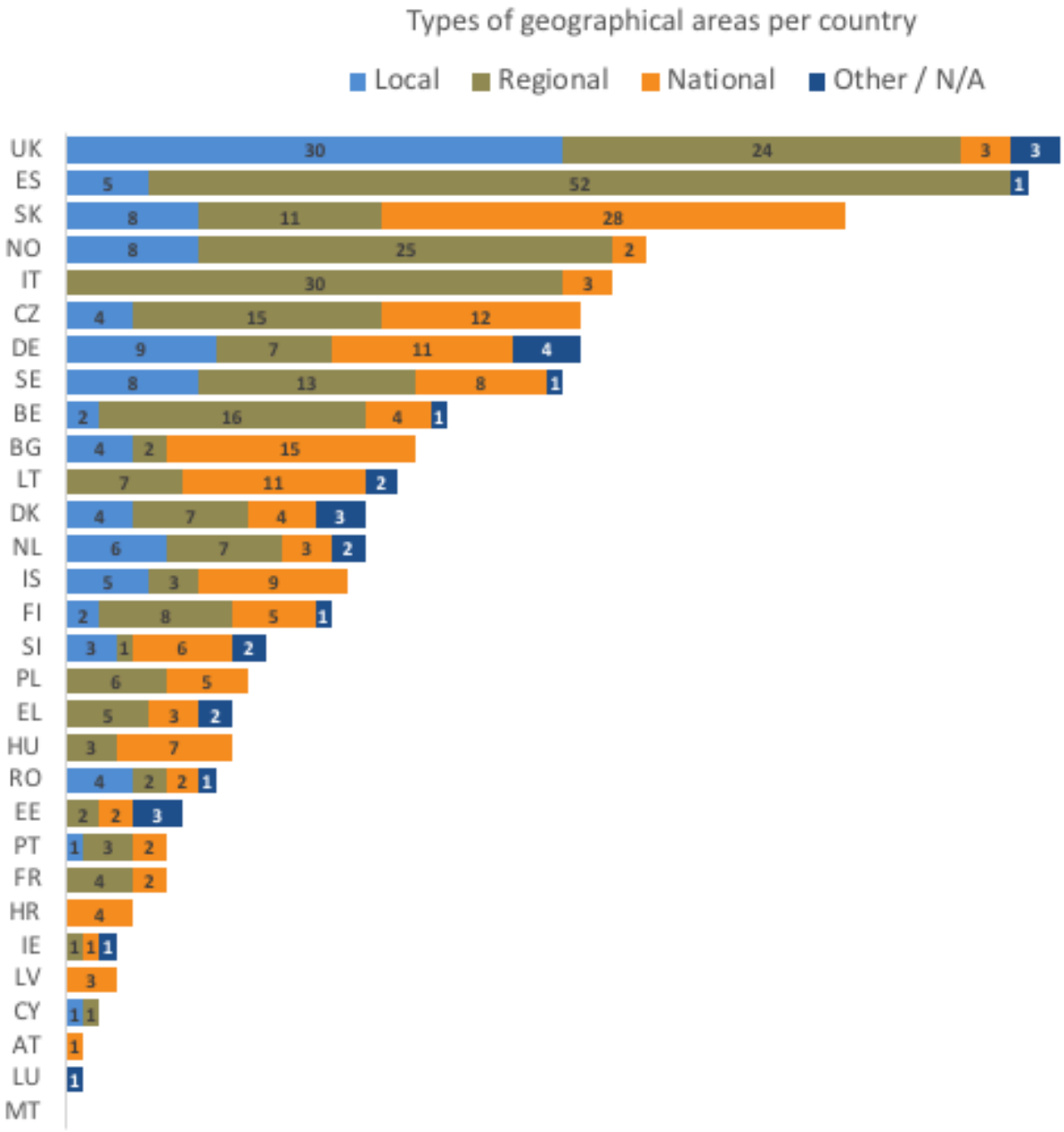
As explained above, another aspect of integrated care implementation that was investigated during this phase of the study concerns the geographical scope of initiatives.

Specifically, the geographical scope of integrated care initiatives has been recorded as *national*, *regional* or *local*. The ratio of national-to-regional-to-local initiatives is a clarifying metric, as it provides information that is relevant to understanding if integrated care initiatives are more commonly associated with bottom-up or top-down approaches in any given EU Member State, Norway and Iceland. The report highlights the differences in the geographical scopes of integrated care initiatives across the 30 countries included in the scope of this study (as presented in Figure 4). A full list of integrated care initiatives and their corresponding geographical scopes is presented in the accompanying Integrated Care Repository (Annex 1). As with the data presented in Figure 3 (i.e. breakdown of types of integrated care initiatives), the percentage of regional and local integrated care initiatives is higher in countries that have traditionally been associated with de-centralised health systems (e.g. ES, IT). This is also illustrated in Figure 4, where the percentage of regional integrated care initiatives is considerably higher in Spain and Italy, in comparison to countries with more centralised health systems, such as Iceland, Lithuania and the Czech Republic.

The initiatives retrieved have also been categorised by:

- Type of integration, i.e. functional, organisational, professional, or clinical level.
- Level of integration, i.e. vertical and/or horizontal.
- The degree to which different elements of the initiative are connected, i.e. linkage, coordination, or full integration.

Figure 4. Breakdown of integrated care initiatives by geographical scope



3.5 Conclusions

Integrated care is present in all the 30 countries included in the study. There is a large amount of literature describing integrated care policies and models in some of the included countries such as the UK, Spain, Germany, Sweden and the Netherlands, while the evidence for most of the other countries is only now emerging.

The mapping of integrated care initiatives confirms the significant variability across Europe. This variability across the 28 Member States, Norway and Iceland is highlighted by the different types of integrated care initiatives that have been included in the accompanying Repository of Integrated Care initiatives (Annex 1). Moreover, integrated care initiatives differed by geographical scope and care components being integrated. An example of this relates to the finding that countries with more centralised health systems showed a higher percentage of national-level integrated care policies, whereas countries with de-centralised health systems showed a higher percentage of regional-level integrated care interventions.

In terms of barriers and facilitators, most studies analyse these at the level of the organisation or interpersonal level. Lack of cooperation between organisations, teams or professions is a recurrent barrier, together with lack of resources or knowledge. Strong commitment and networks, as well as good communication and leadership are facilitators of integrated care. Further research analysing the barriers and enablers at policy level would address a gap in the current understanding of this issue.

4. PART 1.B: MATURITY OF HEALTH SYSTEMS

Building on the findings of the literature review and mapping of integrated care initiatives outlined in Part 1.a, we carried out an assessment of integrated care implementation maturity across selected health systems. This maturity assessment was performed using the 'Maturity Model for Integrated Care'.[84] The Maturity Model has been operationalised in the form of an online self-assessment tool. This part of the study was undertaken in close collaboration with SCIROCCO (Scaling Integrated Care in Context), an EU Health Programme project focusing on the development of an online self-assessment tool to assess the readiness of a particular region / organisation / health system for integrated care. The SCIROCCO project builds on the achievements of the B3 Action Group on Integrated care of the European Innovation Partnership on Active and Healthy Ageing (EIPonAHA) and aims to validate and test the conceptual model (Maturity Model) which was developed by the B3 Action Group. The methodological approach to performing an assessment of the maturity of integrated care implementation in 12 health systems is discussed further in section 4.1. The criteria for selecting the 12 health systems for the maturity assessment are outlined in Annex 2. In Annex 3, the results of the self-assessment of the 12 health systems are presented.

4.1 Assessment of integrated care implementation maturity in 12 health systems: key findings

The assessment of integrated care implementation maturity was carried out in the following 12 health systems:

- Belgium | West Flanders region;
- Bulgaria | Sofia;
- Denmark | Southern Denmark region;
- Estonia | national-level analysis;
- Germany | local-level analysis of the areas of Hausach and Haslach im Kinzigtal;
- Greece | national-level analysis;
- Iceland | national-level analysis;
- Italy | Lombardy region;
- Netherlands | national-level analysis;
- Poland | East Mazovia region;
- Spain | Asturias region;
- Sweden | Norrbotten region.

[84] The Maturity Model for Integrated Care can be found at: https://www.scirocco-project.eu/maturitymodel/

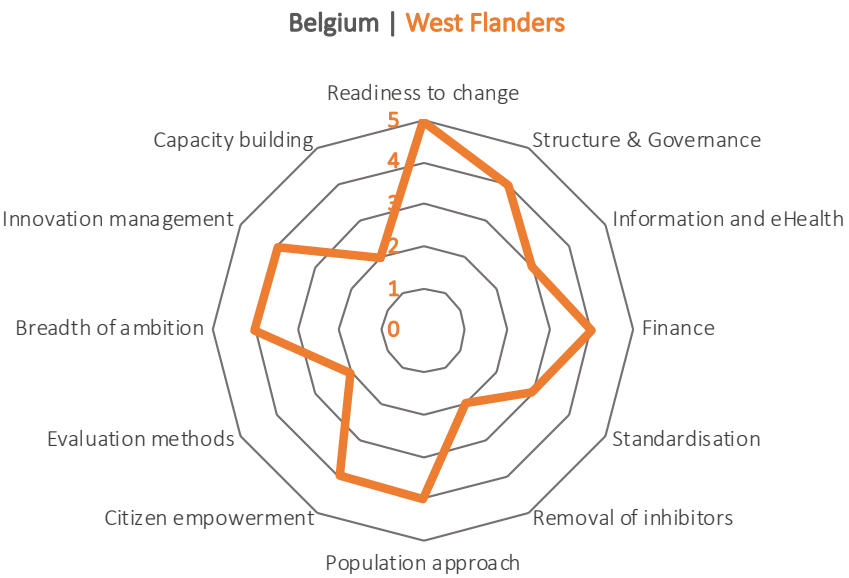
The results from these integrated care implementation maturity analyses are displayed in figures in the form of relative scores provided for each *maturity domain*, and for each selected health system, by interviewed stakeholders.

It is apparent from the self-assessment results displayed below that the health systems in **Germany, Denmark, Belgium, Italy, Spain, Greece, Sweden and Iceland** were perceived by their corresponding stakeholders to be more mature than those in **Estonia, the Netherlands, Poland and Bulgaria**. This is further highlighted in the qualitative summaries, also sourced through the maturity model analysis, and outlined below.

Belgium | West Flanders region

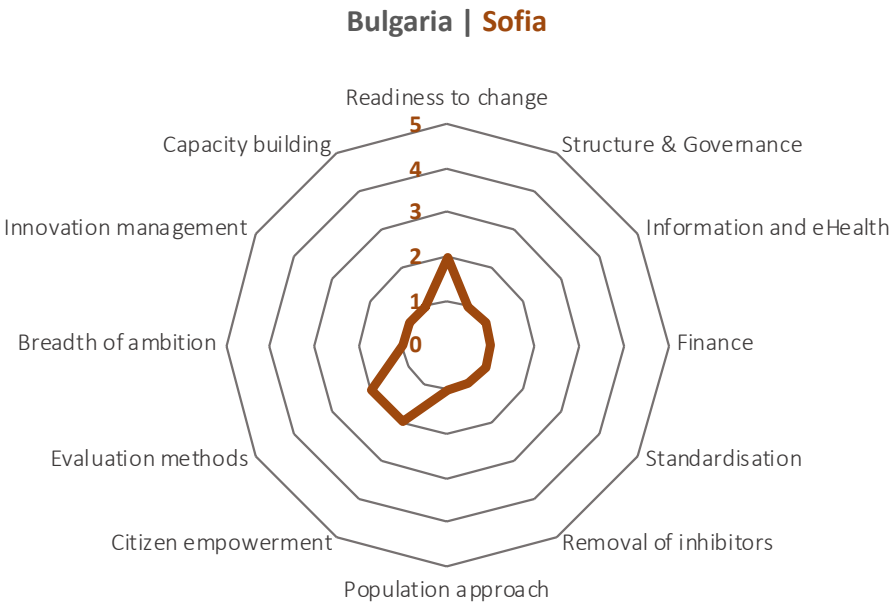
There are well-defined policies aimed at the implementation of integrated care, as well as a clear political consensus around governance and engagement with relevant stakeholders. This was clearly reflected in the Maturity Model Assessment, particularly in the Readiness to Change assessment dimension, which was rated as 5 (*Political consensus; public support; visible stakeholder engagement* – the highest possible score).

This clear set of policies and political consensus served as a basis for the establishment of 20 pilot projects that aim to implement integrated care across several regions in Belgium, including the Flanders region, for which three projects are currently finishing their conceptualisation stages. Because the concept of integrated care implementation is relatively new in Belgium (and the Flanders region), there is a need to progress in several assessment dimensions once the pilot projects begin their operationalisation phases. These dimensions include the development of systematic evaluation methods, as well as improvements in capacity building.



Bulgaria | Sofia[85]

The implementation of integrated care at national level is in its early stages. Where integration of health and social care has taken place, for example a pilot project (i.e. Beyond Silos[86]) in Sofia, the results have been positive. It has been noted that for scaling up and expanding the implementation of integrated care, new and more ambitious funding is needed, as well as the political will to do it. The Beyond Silos project has been financed with European structural funds. The need for implementing more integrated care is recognised by the government in its policies and there are plans, or at least intentions, to bring it forward, although these are still at the early stages.



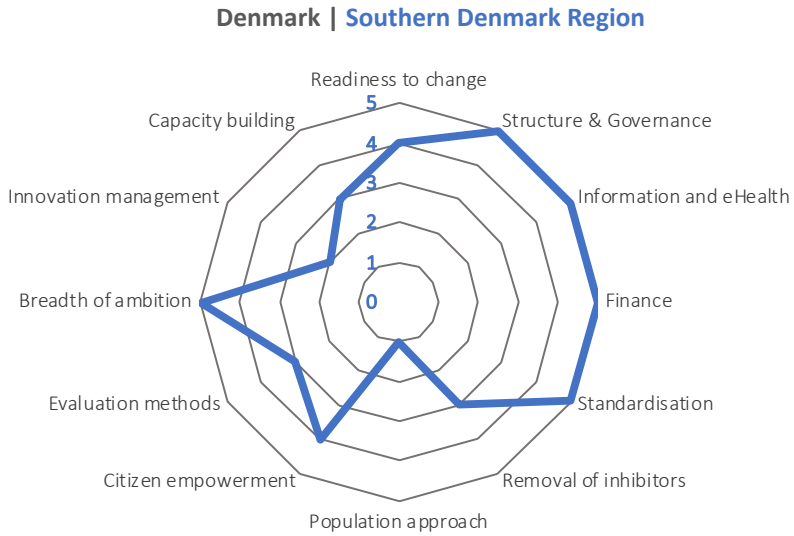
[85] In this instance, Sofia refers to the city of Sofia

[86] See http://beyondsilos.eu/pilots/sofia-bulgaria.html for more information

Denmark | Southern Denmark region

The current level of integrated care implementation in Denmark is advanced in most of the dimensions covered by the Maturity Model Assessment. This is reflected in the self-assessment ratings, with more than half of the assessment dimensions being rated as 5 or 4. Generally, the progression of integrated care implementation in Denmark over the past decade has been uniform across the different regions (including Southern Denmark), given that there is a fully implemented integrated care programme at national level and a supporting political consensus.

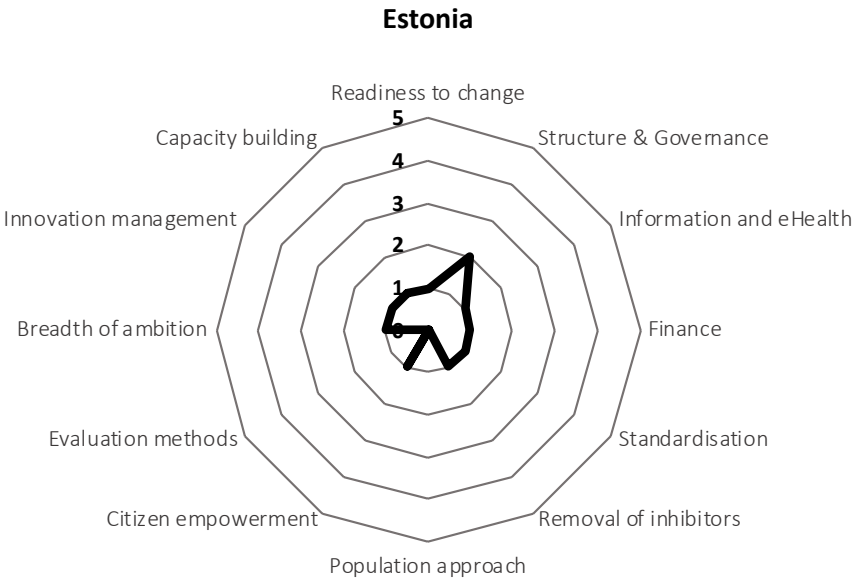
Moreover, the Southern Denmark region has made considerable progress on the enablement of shared health records and the development of common health standards to be used within the region. Interestingly, the region does not use a systematic approach to population risk stratification. This is still carried out by 'family doctors', who act as gatekeepers in the Danish health system.



Estonia

There are no clear policies specifically aimed at setting guidelines for integrated care implementation, which is considered to be in its infancy in Estonia. Moreover, there is no political consensus or a shared vision toward implementation of integrated care and a roadmap to overcome the identified inhibitors to care integration. This was reflected in the Maturity Model Assessment, particularly in the Readiness to Change and Removal of Inhibitors assessment dimensions, which were rated by the stakeholder as 1 (second lowest possible score).

However, there is a considerable ongoing effort in Estonia to advance implementation of integrated care from a 'bottom-up' perspective. In fact, there are numerous integrated care initiatives in the form of projects and interventions looking to use information technology to integrate care provision with health record management, as well as organisations looking to advance integration of health and social care.

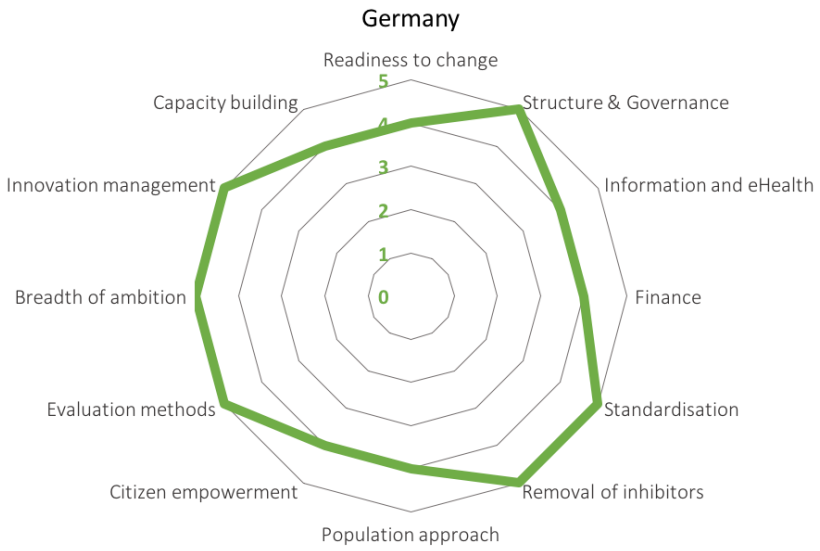


Germany | Local-level analysis of the areas of Hausach and Haslach im Kinzigtal

The integrated care landscape in Germany varies widely in term of advancement of integration, with the region where the integrated care system is located, and covering about 33,000 inhabitants, being one of the most developed ones. This was reflected in the maturity assessment model, where all dimensions were given a score of 4 or 5, the maximum possible score.

Comparing this maturity assessment score to the one done in 2015 (European Commission, 2017a), it is noticeable that the initiative has developed significantly, improving its score in most domains ('Structure and Governance' (from 3 to 5), 'Innovation Management' (from 3 to 5), 'Capacity Building' (from 3 to 4), 'Breath of Ambition' (from 3 to 5), 'Population Approach' (from 3 to 4), 'Removal of Inhibitors' (from 2 to 5), 'Standardisation and Simplification' (from 1 to 5), and 'Information and eHealth Service' (from 3 to 4)).

From the comparison outlined, the results of the new maturity assessment undertaken for this study may be a reflection of the shift of Gesundes Kinzigtal's integrated care model from the coordination type towards full integration (Meyer et al., 2017). This demonstrates that the use of the maturity assessment tool over time facilitates tracking the areas of improvement and those that require further development.



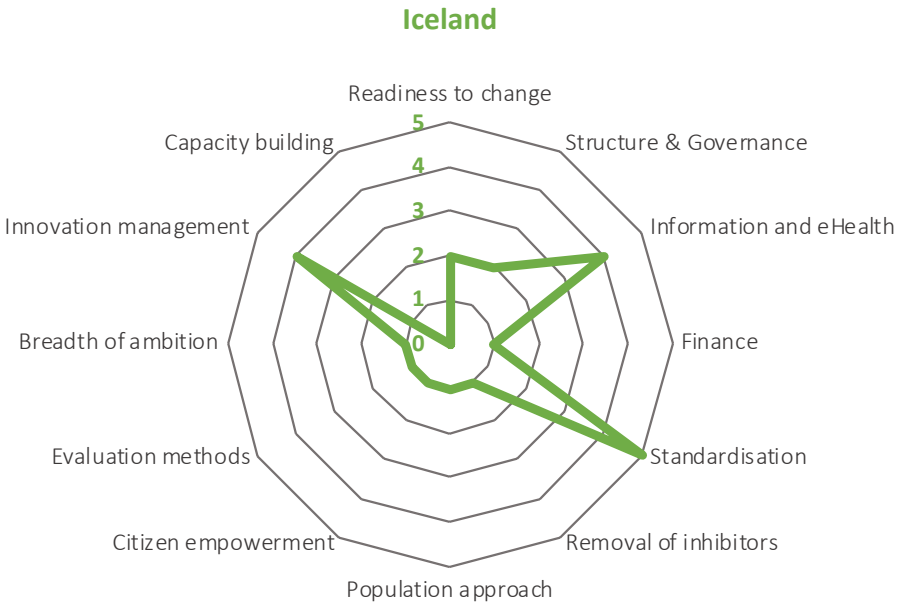
Greece

The current level of integrated care implementation in Greece is low in most of the dimensions covered by the Maturity Model Assessment. This is reflected in the self-assessment ratings, with the majority of the assessment dimensions being rated as 1 or 2. Generally, it is perceived that progression of integrated care implementation in Greece has been hindered by the lack of political will and consensus to establish a comprehensive set of integrated care policies and strategies at national level.

However, there is a considerable ongoing effort in Greece to advance implementation of integrated care from a 'bottom-up' perspective. In fact, there are numerous integrated care initiatives in the form of projects, interventions and models at the local and regional levels, particularly around the use of information technology and eHealth.

Iceland

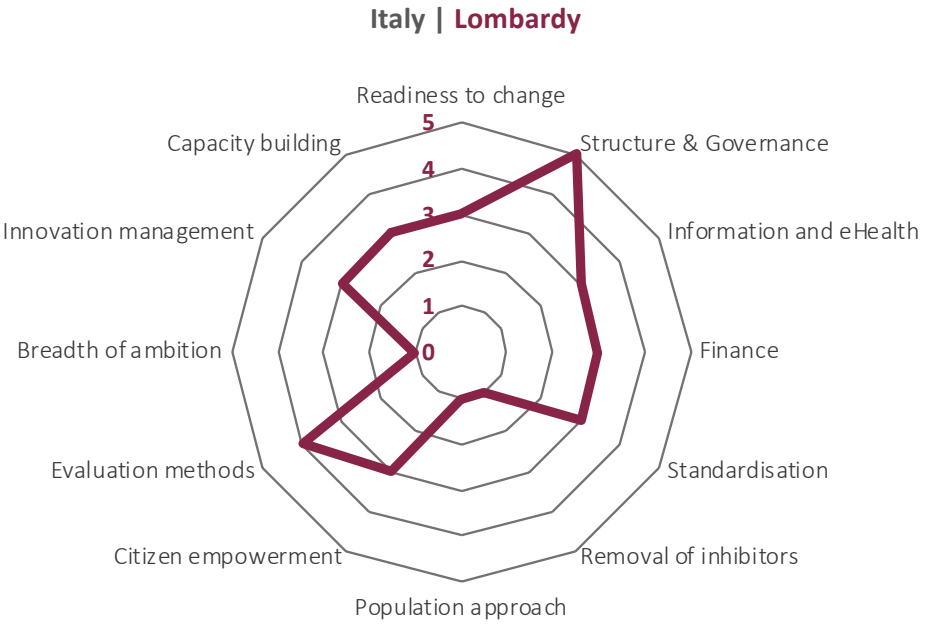
The Icelandic health system has been progressing consistently toward integrated care over the past two decades, but without establishing policies that make specific use of the 'integrated care terminology'; instead reference is made to 'consolidation of primary and secondary care', and 'establishment of multidisciplinary teams'. As a result, Iceland does not have a formal political consensus or specific policies around integrated care, although legislation is currently being drafted. This is reflected in the Maturity Model Assessment, where the assessment dimensions unrelated to information technology and eHealth were rated between 1 and 2. Conversely, the implementation of information technology and eHealth tools was categorised by interviewed stakeholders as advanced, e.g. use of electronic health record systems is mandated by law; systems for patient management are co-designed with users, and there are well-defined and widespread Icelandic standards for use of systems and data.



Italy | Lombardy region

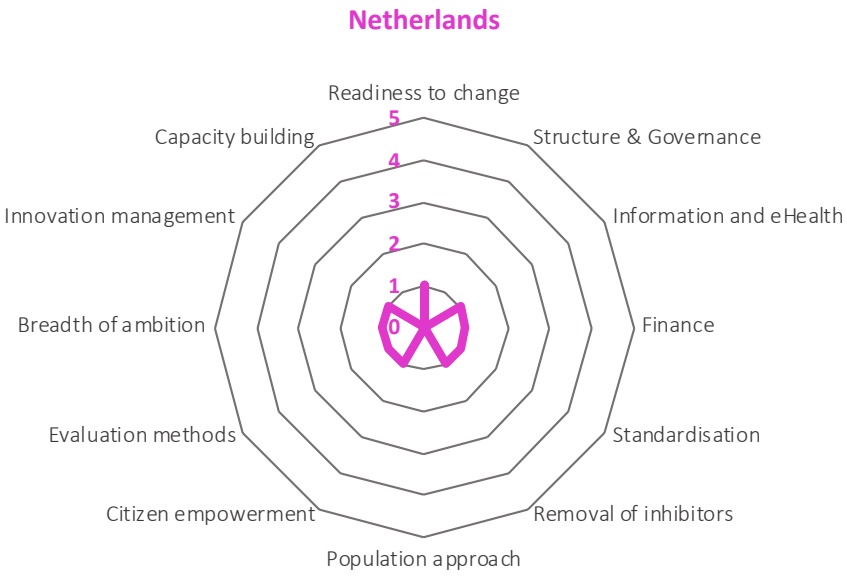
The Lombardy region has made great progress over the past five years in developing policies that are specifically aimed at integrated care implementation. There is a political consensus around integrated care programmes in the region, as highlighted in the Structure and Governance assessment dimension, which was rated as 5. This political consensus in the region also provides the platform for enabling the implementation of integrated care across other dimensions, such as financing of programmes, evaluation methods, and development of eHealth initiatives.

The remaining obstacles to the implementation of integrated care in Lombardy relate to the heterogeneity in integrated care practices across different providers in the region. Moreover, there is considerable resistance from medical doctors with regard to adapting elements of their profession in order to effectively deliver integrated care, which remains one of the most challenging inhibitors of integrated care implementation in the region.



Netherlands

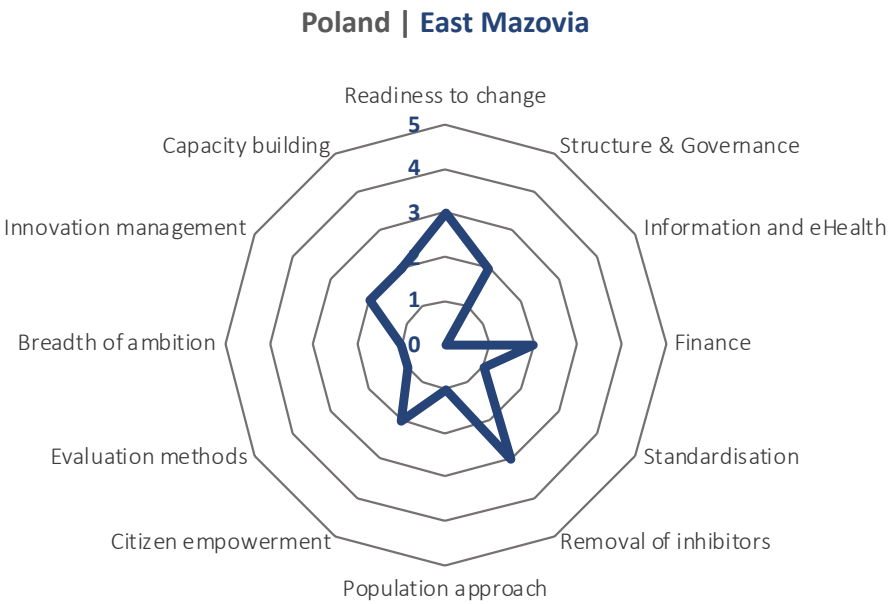
The current situation regarding implementation of integrated care is characterised by lack of political consensus and development of national-level policies. It was also noted that, while there are numerous 'bottom-up' integrated care initiatives (e.g. pilot projects) across the Netherlands, it will remain challenging to implement integrated care effectively without an all-encompassing national-level policy. These elements were reflected in the Maturity Model Assessment, where all the assessment dimensions were rated as either 0 or 1.



Poland | East Mazovia region

The status of integrated care implementation in the East Mazovia region is generally less advanced than in specific private organisations, e.g. Centrum Medyczno – Diagnostyczne. From a regional (and national) point of view, there are no clear policies specifically aimed at setting guidelines for integrated care implementation, which is considered to hinder its progression in the region. This was reflected in the Maturity Model Assessment, whereby the majority of assessment domains were ranked between 0 (the lowest possible score) and 2.

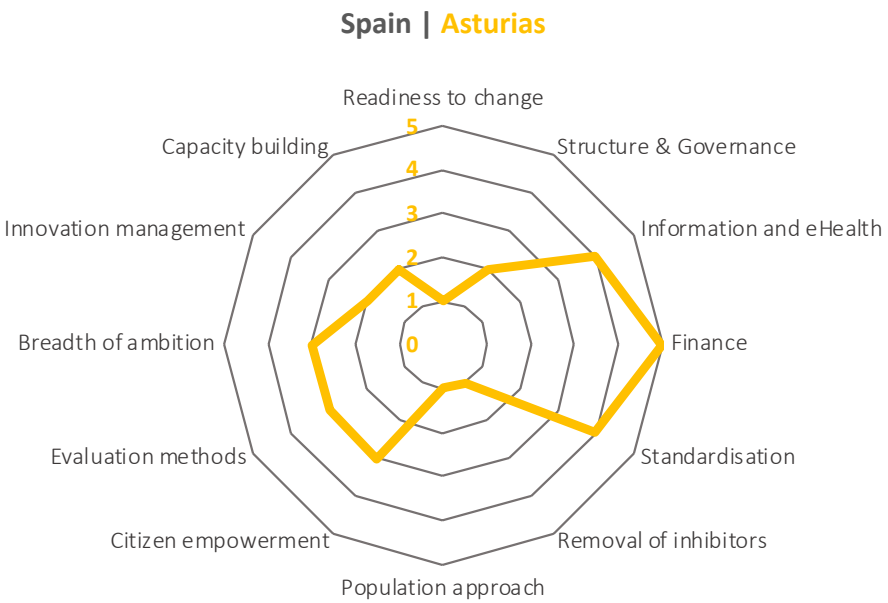
Moreover, there are other inhibitors to the implementation of integrated care in the East Mazovia region, namely the issue of 'staff rigidity' (i.e. lack of skill base to effectively deliver integrated care), and outdated IT systems that prevent an integrated flow of information (e.g. health records) between providers.



Spain | Asturias region

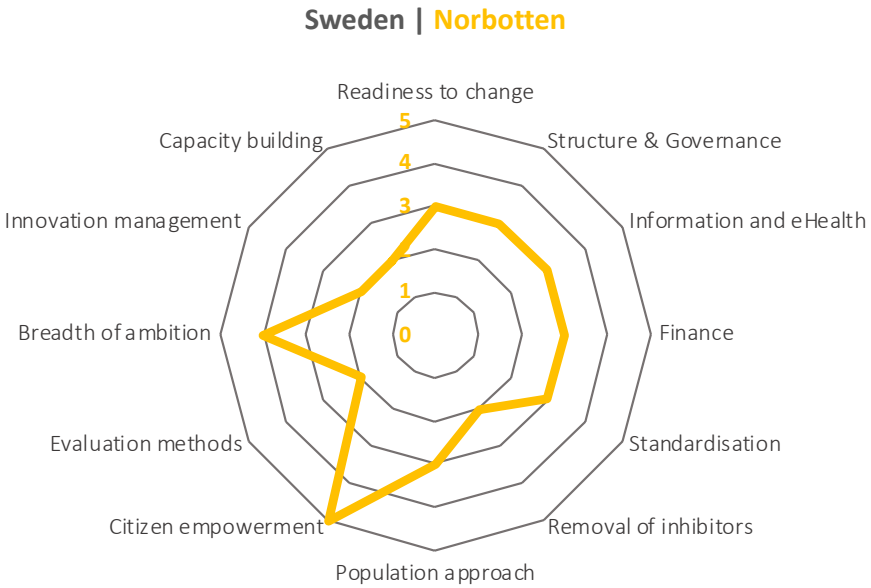
There are no clear policies specifically aimed at setting guidelines for integrated care implementation, which is considered to hinder its progression in the region. Moreover, there is no political consensus or a shared vision toward implementation of integrated care. This was reflected in the Maturity Model Assessment, particularly in the Readiness to Change and Removal of Inhibitors assessment dimensions, which were rated as 1 (i.e. *Compelling need is recognised, but no clear vision or strategic plan* and *Awareness of inhibitors but no systematic approach to their management is in place,* respectively).

However, even with these constraints in place, there has been considerable progress in implementing integrated care in the Asturias region from a 'bottom-up' perspective, particularly with regard to the integration of health and social care. In this respect, one of the challenges faced in the region is that healthcare is managed at the regional level and social care at the municipal level, although a collaboration framework across the two dimensions is starting to emerge. From a healthcare perspective only, the system is integrated with unique electronic health records and shared pathways, but there are still areas of improvement such as citizen engagement, evaluation, innovation management and capacity building.



Sweden | Norrbotten region

The maturity of the Swedish integrated care healthcare systems is amongst the strongest analysed in terms of breath of ambition and citizens' empowerment (scored, respectively with 4 and 5), and the weakest in terms of innovation management, evaluation methods and removal of inhibitors (all scored with 1). The rationale of these low scores was the acknowledgement of a lack of models and structure to drive innovation, evaluations services and growth of integrated care initiatives.



4.2 Conclusions

The exercise of carrying out the integrated care implementation maturity analyses mentioned above yielded interesting results with regard to the differences in maturity from health system to health system in implementing and adopting integrated care. In this context, it should also be noted that the SCIROCCO Maturity Model tool provides a considerable level of descriptive power, while being context-sensitive.

However, it should also be noted that although tools based on self-assessments can provide valuable preliminary results, their applicability to in-depth comparative analysis of different health systems in the context of integrated care implementation is limited. A representative example of this limitation can be found in the outputs of the maturity analysis on the Dutch health system: as outlined in Part 1.a, Netherlands has witnessed a considerable level of implementation evolution in terms of bottom-up integrated care initiatives, but this was perceived as insufficient progress for the interviewed stakeholder, who provided domain ratings between 0 and 1. This limitation could be mitigated by involving a representative sample of stakeholders from the same health system in the self-assessment and, if possible, reconcile the scoring to come up with a unified vision of the maturity of the system. Doing this at national level would be costly and time-consuming but it could be achieved at local or regional level.

Furthermore, the selection of 12 health systems out of 30 national health systems in the scope of this study (and, in addition, all their regional and local health systems) is not fully representative of the vast structural diversity of European health systems, nor of the vast variety of contexts in which care can be integrated. This should be pointed out as another limitation of the maturity analysis showcased in this chapter.

From the engagement with stakeholders for the assessment of maturity of their health systems, it became evident that a) there is interest from professionals engaged in the implementation of integrated care in using evidence-based tools to support them in their transformation process and b) engagement and buy-in from potential users of these tools is key to develop instruments that support them in their transformation process. These learnings have been implemented in Part 2 of this study; that is, the development of an Integrated Care Performance Assessment Framework.

5. PART 2: PERFORMANCE ASSESSMENT OF INTEGRATED CARE

The findings from Part 1 of the study have informed the development of the proposed integrated care performance assessment model presented in this section. In the process, the diversity of models and different levels of maturity of health systems, as well as the need to make the assessment of performance adaptable to local contexts, have been taken into account by developing the proposed framework through a co-design process and expert elicitation and validation.

There have been previous efforts to develop appropriate measures to assess the performance of integrated care based on the evidence and stakeholder engagement approaches (see for example Robles et al., 2017). It is possible to build a framework for each individual project, policy or initiative implementing the integration of care. Although the customisation and contextualisation of the performance assessment framework is recognised, establishing a basic or core framework will allow comparison over time and across sites and settings (European Commission, 2017a). As several frameworks have been developed and validated, for example the 2015 WHO's report on people-centred and integrated health services (WHO, 2015), the objective of this phase of the study was to establish which of the indicators proposed by these existing frameworks can be considered core to integrated care and which indicators can be considered optional and used according to specific circumstances and needs. In the consultation, indicators have been re-worded and re-defined to make them applicable across the diversity and heterogeneity of integrated care initiatives, while offering measures for international comparison. As the integration of care evolves, the framework will need to be updated and adapted to new circumstances. Therefore, capturing a breadth of additional indicators instead of discarding them, could facilitate the evolution of the framework according to practice, but still based on evidence and robust methodological approaches.

The Expert Group on Health System Performance Assessment has identified seven essential elements when building performance assessment frameworks of primary care, but which are also applicable to integrated care (European Commission, 2017). Specifically, these elements have been considered in the development of the Integrated Care Performance Assessment framework and are as follows:

- By providing a balanced set of performance indicators, the framework aims to improve the functioning and integration of primary care information systems without becoming a considerable administrative burden (element 1);
- If used consistently and over time, the framework can help to embed performance assessment in policy processes, especially those linked to integrated care implementation (element 2);
- If used consistently and over time, the framework can help to institutionalise a performance system (element 3);
- The framework ensures accountability, in particular as it allows for funds allocation to be linked to expected outcomes (element 4);
- The framework considers patients experience and values (element 5);

- The framework is adaptable and also allows for adaptability and change by offering the option to track both core and optional indicators, contextualised to the local context (element 6);
- The framework supports a goal-oriented approach through a better use of professional and contextual evidence (element 7).

The framework proposed for the assessment of performance of integrated care takes the following definitions from Braithwaite et al., 2017:

- **performance indicators** are measurable elements of practice performance for which there is evidence or consensus that they can be used to assess the quality, and hence change of quality, of care provided; and
- **performance framework** is a conceptual framework that sets out the rationale and design principles for an indicator set.

5.1 Rationale and guiding principles of the performance assessment framework model for integrated care

The report by the HSPA Expert Group *BLOCKS. Tools and methodologies to assess integrated care in Europe* points out that in order to select relevant measures to evaluate the performance and progress of integrated care it is necessary to have a good understanding of: the core aims of integrated care and its desired outcomes; the timeframe over which the outcomes can reasonably be expected to be achieved; how impact can be measured; the robustness of measures and, importantly, the simplicity and ease of measurements.

These principles have guided the development of the proposed performance assessment framework model for integrated care presented in this report.

The framework has been developed in a co-design process with the following stakeholders:

- An expert panel made up of the study expert advisors and the performance assessment framework peer reviewers;
- Representatives of European integrated care project and sites, recruited in both a targeted fashion as per the selection criteria presented in Annex 4 and opportunistically, to add transparency and validity to the process.

Existing and already validated frameworks and indicators have been reviewed to produce a **list of 147 indicators**. With the help of the study expert advisors, the list was reduced to **56 indicators** presented under five domains:

1. Advancement of integration;
2. Use of healthcare services;
3. Health outcomes;
4. Patients' satisfaction and quality of life;
5. Financial ou tcomes.

The co-design process was carried out in a series of engagements with relevant stakeholders:

- A brainstorming workshop with the study experts advisors;
- An online meeting with representatives of integrated care projects and sites, who were invited to review the framework and send their results to the Study Team;
- Online workshop with a panel of experts (study advisors and peer reviewers);
- A final validation workshop in Brussels with experts and participating projects.

Given the heterogeneity in the implementation of integrated care across the EU, the framework proposed is composed of two sets of indicators: 1) **core indicators** that are considered to be central to integrated care and should be easy to measure directly or start measuring; and 2) **optional indicators**; that is, a menu of indicators from existing frameworks that, although not considered necessarily central to integrated care, may be valuable to users implementing integrated care at the level of the organisation, the health system or at policy level.

Core indicators

The rationale behind the need to establish core indicators to measure the performance of integrated care can be found in the HSPA Expert Group's *BLOCKS* report. As such, to be included in the core framework, indicators needed to fulfil selection criteria from the OECD Health Care Quality Indicators, presented in the *BLOCKS* report, such as:

- **Validity:** sufficient scientific evidence exists to support a link between the value of an indicator and one or more aspects of healthcare quality.
    - The long-list of indicators have been proposed previously in validated frameworks, especially the potential measures of people-centred and integrated health services compiled by WHO (2015) and presented in Annex 5 of the *BLOCKS* report.
- **Relevance:** an indicator measures an aspect of quality with high clinical importance, a high burden of disease or high healthcare use.
    - In the assessment of the 56 indicators, stakeholders were asked to respond to the question: *Is the indicator relevant to assess the performance of integrated care?* (**Key Testing Criterion 1**; **KTC1**).
- **Reliability:** repeated measurements of a stable phenomenon get similar results.
    - Stakeholders were asked to respond to the question: *Does the indicator provide a reliable measure of the performance of integrated care?* (**Key Testing Criterion 2**; **KTC2**).
- **International feasibility:** an indicator can be derived for international comparisons without substantial additional resources.
    - Stakeholders were asked to respond to the question: *Is it possible to collect the required data relating to this indicator?* (**Key Testing Criterion 3**; **KTC3**).

- **Actionability**: an indicator measures an aspect of quality that is subject to control by providers and/or the healthcare system and is actually used at a national level for policy-making, monitoring or strategy development.
    - Stakeholders were asked to respond to the question: *Is the data relating to this indicator accurate and up to date?* (**Key Testing Criterion 4**; **KTC4**).
- **International comparability**: reporting countries comply with the relevant data definition and where differences in the indicator values between countries reflect issues in quality of care rather than differences in data collection methodologies, coding or other non-quality of care reasons.
    - A fifth key testing criterion relating to international comparability was not included, although it was expected that the responses on key testing criteria 3 and 4 could be used to determine the comparability of indicators. However, the variability of responses did not permit this analysis to be carried out.

The core indicators selected through the co-design and stakeholder engagement process are considered key to assess integrated care performance, but many of them are also applicable outside integrated care initiatives. Conversely, there are indicators that although not considered core to integrated care could provide interesting measures of performance in particular contexts. These are considered optional indicators within the Integrated Care Performance Assessment framework. The framework can also be adapted to be used as part of a broader performance assessment approach by focusing on a subset of core indicators if the rest of the indicators are captured elsewhere.

Optional indicators

Indicators proposed by existing frameworks that could potentially help practitioners and policy-makers in the implementation of integrated care were not discarded from the framework model presented in this report. These indicators are presented as optional indicators that can be included in the performance assessment cycle and assessed in the same manner as the core indicators. The list of optional indicators are categorised according to the level of the health system; of the organisation(s) and their staff; or from the perspective of patients and carers. Indicators have also been categorised as outcome or process indicators.

5.2 Results from the co-design process

Four integrated care experts and 12 integrated care projects collaborated in the first phase of co-design process of the performance assessment framework (see Annex 4). The engaged stakeholders were asked to respond to the four key testing criteria questions discussed in the previous section to inform the decision of which of the 56 indicators should be included in the core framework.

Summative analysis

A quantitative and qualitative analysis of the aggregated data extracted from the 16 completed spreadsheets was performed.

Box 1: Quantitative analysis values

In order to quantitatively analyse the input from stakeholders, the data points for each KTC were converted into numerical values, according to the following principles:

- *The value of **1** was assigned to all 'Yes' answers;*
- *The value of **0.5** was assigned to all 'Don't know' answers;*
- *The value of **0** was assigned to all 'No' answers.*

Results from the summative analysis allowed us to compare and rank all IC indicators, based on stakeholders' answers, thus generating insights on which IC indicators had the highest consensus for inclusion (i.e. highest aggregated score) and exclusion (i.e. lowest aggregated score), as shown in Tables 2 and 3.

Based on the data collected, **the five** IC indicators with a result lower than 40% for KTC1 (*Is the indicator relevant to assess the performance of integrated care?)* were directly excluded.[87]

Table 2: Five indicators with the lowest summative score

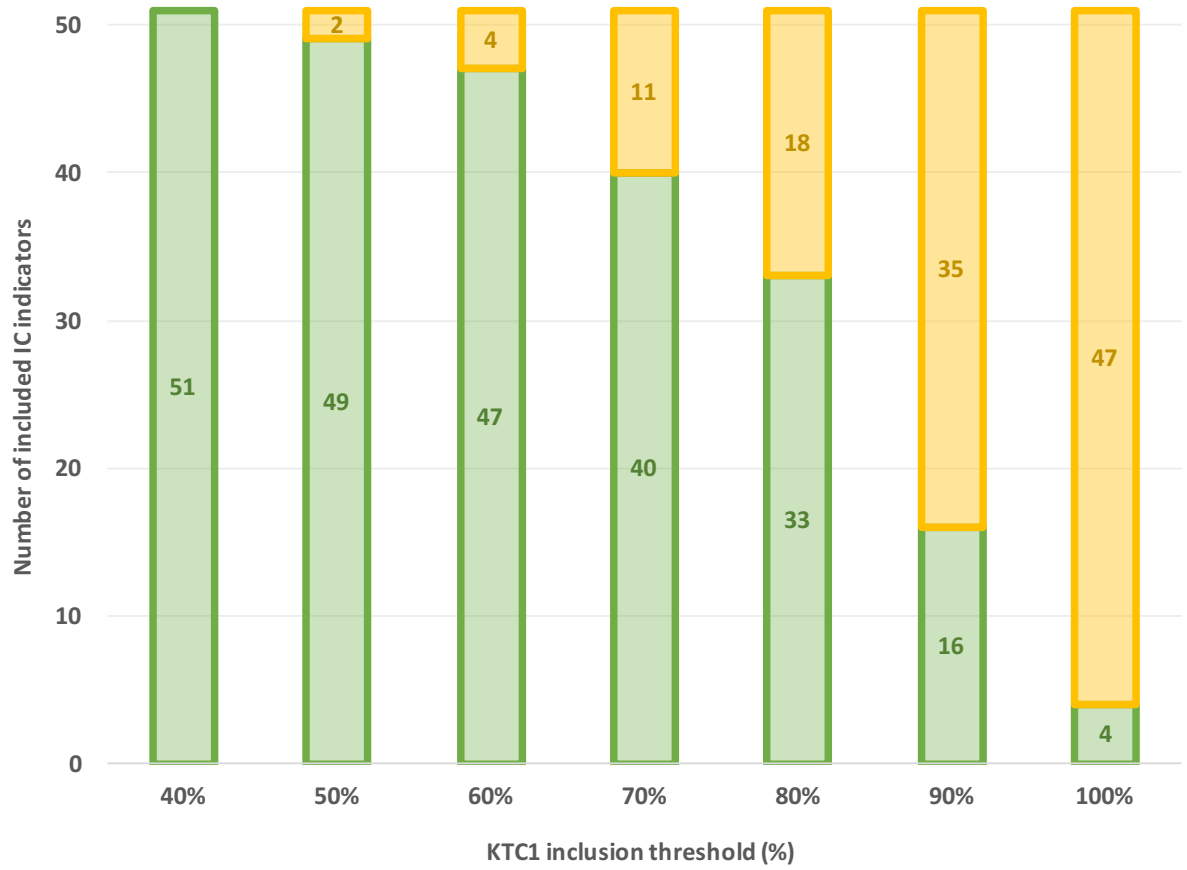
Indicator	Domain	Aggregated score
Quality of family planning services (e.g. contraceptive methods mix offered in care facilities)	Patient Satisfaction and Quality of Life	21
Level of substance misuse	Health outcomes	22
Total alcohol consumption	Health outcomes	23
Level of obesity	Health outcomes	26.5
Holistic needs assessment	Use of healthcare services	28.5

[87] The decision to directly exclude the five indicators was validated with the study expert advisors and peer reviewers.

The remaining IC indicators received the percentage score outlined below and in Figure 5 for KTC1:

- IC indicators with a result of 90% – 100%: **16**
- IC indicators with a result between 80% – 100%: **33**
- IC indicators with a result between 70% – 100%: **40**
- IC indicators with a result of 60% – 100%: **47**
- IC indicators with a result of 50% – 100%: **49**
- IC indicators with a result of 40% – 100%: **51**

Figure 5. Number of IC indicators to be included in the framework versus KTC1 (Is the indicator relevant to assess the performance of integrated care?) inclusion threshold



The number of indicators to be included as a result of different KTC1 threshold value are displayed in green. The yellow bars outline the number of remaining indicators (i.e. to be discussed during the validation workshop). The threshold for direct inclusion in the

framework was decided at 90% at the peer-review webinar once all responses were incorporated.

Table 3: Five indicators with the highest summative score

Indicator	Domain	Aggregated score (Total possible score = 60)
People with multiple admissions per year (by age and prior condition)	Use of Healthcare Services	53.5
Average length of stay	Use of Healthcare Services	52
Doctor/nurse involving patients in decisions about case and treatment	Patient Satisfaction and Quality of Life	51.5
Relative spend on primary, community, secondary and tertiary care	Financial Outcomes	50
Number of emergency admissions (by age and risk group)	Health outcomes	50

Coherence analysis

A second layer of analysis was undertaken, by measuring the level of coherence for each IC indicator for all four KTC. Understanding the level of coherence of the aggregated answers is key to distinguishing, in the IC indicators that fall above the exclusion threshold, between the ones where the majority of stakeholders agreed that they 'did not know' how to assess the indicator against the criteria, and the ones where there was no consensus between stakeholders. Answers to specific KTC were considered coherent when more than half of the answers from all stakeholders were the same.

The breakdown of the data into answer typologies is as follows:

- If more than 50% of the answers to a KTC were 'Yes', then the answer was considered to be **coherent**, and the **criterion was said to have been met**;
- If more than 50% of the answers to a KTC were 'Don't know', then the answer was considered to be **coherent**, and the **criterion was said to require further discussion** during the workshop on 31 January;
- If more than 50% of the answers to a KTC were 'No', then the answer was considered to be **coherent**, and the **criterion was said to not have been met;**

- In the case that there was not one predominant answer (i.e. > 50%), the assessment was considered to **not be coherent**.

An example of why the addition of the coherence analysis is useful can be the comparison of the results from criterion D2#2 (Occupied bed days) and from criterion D1#13 (Availability of staff inter-professional training). Both criteria fall between the bottom 40% and top 90% of answers. However, when considering the coherence analysis, it can be seen that criterion D1#13 is coherent for the number of 'yes', while criterion D2#2 shows no coherence in stakeholders' answers.

Qualitative analysis

A qualitative analysis of comments and additional integrators suggested by the stakeholders was also carried out. After aggregating the comments for each IC indicator, a simple thematic analysis was performed. These themes are defined and explained in Table 4.

Table 4: Stakeholders qualitative feedback

Theme	Feedback from stakeholders
Generalisability	Mainly in regard to the IC domain of the 'advancement of integration', stakeholders highlighted that the level of development of IC services across different countries in the EU is very diverse, as is the terminology and plans used to measure it. The significant differences across countries could therefore, as stated by one expert, 'make it very difficult to get accurate information'.
Relevance	A recurrent comment, spread across different domains, referred to indicators measuring healthcare performance, without giving any direct measure of the integration of care.
Definition issues	The most prevalent theme about the indicator definitions in the stakeholders' feedback was about lack of clarity. Most of the comments suggested the addition of a description of the type of measure required. Others recommended that relative terms such as 'timely', 'delay', etc., should be strictly defined. Some stakeholders also suggested that some indicators be refined by dividing

Theme	Feedback from stakeholders
	them into a number of more specific sub-indicators. For example, it was suggested that the indicator D1#2 (alignment of resources to population needs) be subdivided into 1) evaluation of quality of population-level plan; 2) evaluation of quality of delivery against plan at population level; 3) evaluation of quality of plan at individual level; and 4) evaluation of quality of delivery against plan at individual level.
Unreliability	Some comments address a few indicators as being 'unreliable' as they try to compare elements of the integrated care system which are not directly comparable (e.g. medical staff from primary and secondary care). Moreover, some of the indicators were considered 'hard to use' due to potentially controversial interpretations, e.g. assuming a high GP-to-specialist ratio as a positive measure of integration, without considering the needs. Similar comments related to the bias of questions; for example, for indicators measuring patients' satisfaction, as 'the indicators are notoriously biased towards a favourable response'.
Feasibility	Finally, the last overarching theme is related to the feasibility of measuring certain indicators. In this context, a few stakeholders also noted that it is important to mention that 'the presence of a pathway does not also mean that the pathway is applied', emphasising the importance of distinguishing the fact that a process is in place from an assessment of whether the process is working in practice.

In the consultation, additional and modified indicators were suggested by stakeholders.

5.3 Peer-review process

Following the quantitative and qualitative analysis of the framework co-design exercise, we two webinar sessions were held with 11 peer-reviewers, with two objectives: (i) to validate the threshold for direct inclusion of indicators, and (ii) to review some of the definitions of the indicators, which had been highlighted by experts to be unclear.

Box 2: Design principles

The **design principles** for the integrated care performance assessment framework were defined as follows:

- The framework has five domains:
  - Advancement of integration
  - Use of healthcare services
  - Health outcomes
  - Patient satisfaction and quality of life
  - Financial outcomes
- There need to be at least three indicators per domain
- If a domain ends up with less than three indicators, additional ones will need to be developed to reach the threshold of three indicators per domain.
- The framework should have 25–30 indicators overall (to the extent possible)
- There should be process and outcome indicators

As a result of the two sessions, new definitions were developed, and the threshold for direct inclusion was set to 90%. The indicators above the selected threshold were:

- Advancement of integration | Personalised care plans
- Advancement of integration | Case management
- Advancement of integration | Standardised integrated care skill base
- Advancement of integration | Transitions undertaken without delays
- Patient's satisfaction and quality of life | Doctors/nurse involving patients in decisions about care and treatment
- Patient's satisfaction and quality of life | Personal situation of patient considered when planning discharge
- Patient's satisfaction and quality of life | Patient-reported level of support received
- Patient's satisfaction and quality of life | Inclusion of carers
- Health outcomes | Level of met needs among patients with long-term conditions
- Health outcomes | Improved mobility and independence (EQ5D)
- Financial outcomes | Relative spend of primary, community, secondary and tertiary care
- Use of care services | People with multiple admissions per year (by age and prior conditions)

5.4 Validation workshop

A final workshop was held in Brussels to validate the findings from the co-design process and the peer-review webinars. Twenty-five integrated care experts participated. The main objective of the workshop was to identify 15–25 core indicators to assess the performance of integrated care initiatives. The participants, who joined both in person and remotely, were divided into groups, and each group worked on a separate domain. Following the group discussions, each group presented to the rest of the experts the indicators they considered should be part of the core framework.

At the workshop, the participants suggested re-wording some of the domains in the framework:

- Use of healthcare services → Use of care services
- Patient satisfaction and quality of life → Experiences of care and quality of life

During the workshop the expert participants agreed that the core framework should focus on four domains, with the financial performance framework presented as a value-based framework, linking investment or expenditure in integrated care and the quality of the care provided. In the framework developed as an accompanying tool to this report, the financial aspects of the performance assessment of integrated care have been incorporated as an optional table in which users can frame, monitor and reflect on the 'allocative efficiency' (see Cylus et al., 2017) of the initiative they are assessing. This part of the accompanying Excel tools allows users to investigate if there is an association between the allocation of funds (costs or investments) in a given assessment cycle with desired improvements in certain core or optional indicators being assessed in the same assessment cycle.

Following the workshop and a final round of consultations with the stakeholders involved in the co-design and a group of stakeholders with a clinical background, the final list of indicators was drawn up, as presented in Table 5.

Table 5: List of the core integrated care indicators

Indicator Code	Domain	List of Core Indicators	Indicator Description	Indicator Measure
D1#1	Advancement of integration	Personalised plans	A personalised care plan is a tool that records the outcome of the care planning discussion between an individual and their care practitioners, records how and when the services have interacted with the individual and delivered against the care and support included in the care plan. Personalised care plans are owned by individuals and contain all the	% of patients with personalised care plans of all patients identified as needing one.

Indicator Code	Domain	List of Core Indicators	Indicator Description	Indicator Measure
			information they need to manage their own care.	
D1#2	Advancement of integration	Shared care plans	A shared care plan is a tool enabling a multidisciplinary care team to access a common set of clinical information about a patient, containing information on problems, goals, timeframes and accountabilities for all involved.	% of patients with shared care plans across multidisciplinary teams of all patients receiving care from an MDT.
D1#3	Advancement of integration	Take-up of care coordination by case managers	Case managers navigate each phase of the case management process – an established mechanism for integrating services around the needs of individuals with long-term conditions. Case management refers to a targeted and proactive approach to care that involves case-finding, assessment, care planning and care coordination in multidisciplinary teams.	% of patients under the care of case managers.
D1#4	Advancement of integration	Quality of case management	Case management is an established mechanism in integrating services around the needs of individuals with long-term conditions. Case management refers to a targeted and proactive approach to care that involves case-finding, assessment, care planning and care coordination in multidisciplinary teams.	A system is in place to assess the quality of case management.

Indicator Code	Domain	List of Core Indicators	Indicator Description	Indicator Measure
D1#5	Advancement of integration	Alignment of resources to patients/ population needs	A population needs assessment is carried out at an agreed frequency to establish the health needs of the local (patient) population, and prioritise them based on a set of criteria, and care resources are allocated in order to meet those needs.	A system is in place to assess patients'/ population needs and to allocate care resources according to those needs.
D1#6	Advancement of integration	Take-up of multidisciplinary training	Training programme focused on multidisciplinary working practices, care planning and case management and tools to improve quality of care.	% of staff in multidisciplinary team having received multidisciplinary training.
D2#1	Use of care services	Home and/or community-based long-term services and support	Services are provided to patients with identified needs (e.g. older adults and people with disabilities) to assist them with their daily activities so they can remain in their homes or cared for in the community.	% of patients in need of home and/or community-based long-term support who are receiving the services.

Indicator Code	Domain	List of Core Indicators	Indicator Description	Indicator Measure
D2#2	Use of care services	Coordinated transitions across the continuum of care without undue delays (identified by case managers, MDTs or care providers)	A delayed transfer of care occurs when a patient is ready to leave their current care provider but is still occupying a bed. Delays can occur when patients are being discharged home or to another supported care facility, such as a residential or nursing home, or are awaiting transfer to a community hospital or hospice.	% delayed transfers of care with the indicator of integrated care being a reduction in this number over time.
D2#3	Use of care services	Medication management in patients receiving multiple and/or long-term medication	Medication management is a structured review of a patient's medicines with the aim of optimising medicines use (including medication reconciliation), acting upon the review of prescribed medicines, and improving health outcomes.	% of patients receiving multiple and/or long-term medication who have had their medication reviewed by an expert (pharmacist, doctor or nurse). **OR** % of patients who have undertaken a pharmacological reconciliation review.
D3#1	Health outcomes	Improved level of independence in patients with an identified impairment	A series of scales and tools have been developed to assess the level of impairment of individuals across Activities of Daily Living (ADL), self-care, and independence.	% of patients with impaired independence showing improvement on a relevant scale.

Indicator Code	Domain	List of Core Indicators	Indicator Description	Indicator Measure
D3#2	Health outcomes	Patient-Reported Outcome Measures (PROMs)	Any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else.	% of patients who report positive outcome measures in the defined review period (in some cases no change in PROMs can also be recorded as a positive outcome).
D3#3-6 (as needed)	Health outcomes	Improvement of other health outcome(s) relevant to the integrated care context you are assessing	Please define other relevant health outcomes specific to your IC initiative	% of patients showing improvement for the selected health outcome, on a relevant scale.
D4#1	Experiences of care and quality of life	Level of met needs among patients	Patients report that their needs have been met satisfactorily by health and social care services.	% of patients reporting they had the support they needed to manage their conditions.
D4#2	Experiences of care and quality of life	Patients quality of life	WHO defines 'quality of life' as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.	A system is in place to measure quality of life of patients and use the findings. **IF YES** % of people in receipt of care reporting a positive QoL on a relevant scale

Indicator Code	Domain	List of Core Indicators	Indicator Description	Indicator Measure
D4#3	Experiences of care and quality of life	Carers quality of life	WHO defines 'quality of life' as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.	A system is in place to measure quality of life of carers and use the findings. **IF YES** % of carers reporting a positive QoL on a relevant scale
D4#4	Experiences of care and quality of life	Inclusion of carers	Caregivers are included in decisions regarding their relatives and friends receiving care	% of carers who report that they have been included or consulted in discussions about the person they care for and/or % of patients whose carer(s) report that they have been involved in the care discussions.
D4#5	Experiences of care and quality of life	Staff experience of the integrated care initiative being implemented	Staff feel confident and supported through the implementation of the transformation programme towards the integration of care, including their new roles, the new systems in place and coordination with other professional groups or organisations.	% of staff reporting a positive experience of the integration of care or components (e.g. case management, MDTs, shared care plans, ICT systems, etc.).

5.5 Limitations

Some **limitations** remain in the application of the proposed framework. These could be addressed through ongoing feedback as well as further testing and development:

- Definitions and proposed measures may evolve with continued use and adaptation to the local contexts;
- As the framework becomes widely used, through further stakeholder engagement and collaboration, standardised measures and scales may be developed at EU or national level, making the results from different areas more comparable;
- As the proposed measures and metrics evolve and become standard, some challenges in the availability of information could be addressed with adopters of integrated care relying on indicators obtained regularly from information systems.

5.6 Conclusions

The co-design of the integrated care performance assessment framework, complemented with the webinar and workshop, was key for the development of the final framework. Through this process, it was possible to propose an evidence-based framework that would allow users to track their integrated care activities throughout time and assess their performance.

As highlighted by the literature review and mapping of integrated care initiatives, the maturity assessment of health systems and the different stakeholder engagement initiatives, the framework proposed for the assessment of performance of integrated care has to respond to the extremely varied and heterogeneous state of integrated care initiatives in different parts of Europe. The framework has therefore been developed to address this challenge and has a built-in flexibility that will allow users to compare their performance based on their own context, and compared to a target set by themselves.

To facilitate further testing and take-up of the core indicators identified in this study, a tool with the performance assessment framework has been developed in Excel (Annex 5).

6. CONCLUSIONS

Healthcare systems across Europe have acknowledged the need for integration of care to improve health outcomes and patient experiences, and to make systems more efficient. While some countries have already developed integrated care systems, others have only recently started to adopt integrated care. Following up on the report published by the Expert Group on Health System Performance Assessment (HSPA) on the development of tools and methodologies to assess integrated care, the findings of this study, and **the development of the performance assessment framework**, will provide further support for the implementation of integrated care systems in the EU28, Norway and Iceland.

The evidence-based framework, and accompanying tool, will allow **users to track their integrated care activities throughout time and assess their performance**. Although some limitations have been highlighted in the previous section, the framework and tool will be an important instrument to support the further establishment, development and improvement of integrated care initiatives at local, regional and national level across Europe.

The study was developed through **extensive engagement and consultation with stakeholders from 30 countries**, and collaboration with other EU-funded projects. By reviewing the evidence and consulting with experts and practitioners in the field (academics, health managers, health professionals) the study has adopted a robust methodology but also a pragmatic and flexible approach to try to account for the heterogeneity of integrated care models in Europe and the variation in their stages of implementation.

The main findings in the execution of the different phases of the study that led to the development of the framework for assessing the performance of integrated care are as follows:

- **Integrated care is present in all 30 countries** included in the study. The literature describing the adoption and penetration of integrated care in Europe tends to focus on a limited number of countries (e.g. the UK, Spain, Germany, Sweden or the Netherlands).
- The mapping of integrated care initiatives undertaken for this study confirms the **significant variability across Europe**. This variability across the 28 Member States, Norway and Iceland affects models of integrated care, depth and breadth of integration, within countries and regions. The heterogeneity and variability in the implementation and adoption of integrated care was confirmed by assessing the maturity of health systems (at national, regional and local levels) with the application of the SCIROCCO Maturity Model tool.
- While the **Maturity Model** tool provided insights into the implementation of integrated care in different health systems, the assessments provided by stakeholders are **context-sensitive** and do not allow for in-depth comparison of health systems. Engagement with stakeholders identified that
    - a) there is **interest from professionals** engaged in the implementation of integrated care in using **evidence-based tools** to support them in their transformation processes; and

    - b) **co-design** with potential users of these tools enhances the likelihood that they will be widely **adopted for use in practice**.
- The proposed **set of 18 core indicators**, together with the accompanying tool, will provide a **flexible and coherent framework** to support the implementation of integrated care, adapted to the **local context**, and allow users to **assess the performance** of integrated care, monitor the **allocation of funds**, and understand how **resource allocation** is linked to performance.

7. ANNEXES

7.1 Annex 1: Repository of Integrated Care Initiatives

The Repository of Integrated Care Initiatives is available in a separate file – *Repository of European Integrated Care Initiatives.xls*

7.2 Annex 2: Selection of health systems for maturity assessment

For the readiness assessment of maturity to implement integrated care, 12 health systems were selected for case studies. The selection and analysis of the case studies featured a mix of desk-based research, interviews, focus groups and/or virtual engagement with selected stakeholders. To execute these tasks, the Study Team conducted an in-depth analysis of each selected health system on the basis of the level of maturity and a comparative analysis of health systems with varying degree of adoption of integrated care. The purpose of these analyses was to describe to what extent the adoption of integrated care varies between the health systems, as well as to shed light on the dimensions or elements that are crucial for the development of integrated care.

As described in Part 1.a of this report (section 3), the level of maturity of the health systems studied has been assessed using the Maturity Model for Integrated Care developed under the SCIROCCO project.

In this context, the Study Team pre-selected a wider pool of 16 health systems for the assessment of maturity of integrated care implementation. From this wider pool of health systems, 12 were subsequently selected as case studies for the readiness assessment of integrated care (IC) using the Maturity Model,[88] as agreed between the Study Team, DG SANTE and Chafea. This selection of case studies was carried out according to two fundamental criteria, with the objective of ensuring a well-balanced inclusion of the diversity in IC adoption across the 30 countries included in the scope of the study (i.e. EU28, Norway, and Iceland): (i) geographical spread across the 30 countries; and (ii) variability in pace of adoption of IC. The case study selection structure employed by the Study Team was as follows:

- Organisation of Europe into four geographical categories – North, South, East, West.
- Selection of four health systems per geographical category. Considerations on whether the health systems at local/regional level are predominantly urban or rural were made in the selection of potential case studies. The nature of the healthcare funding system was also taken into account with the selection of seven systems financed under the National health system/Beveridge model; seven health systems financed under the Social health insurance/Bismarck model; and two systems financed by a mixed public–private model.
- Additionally, and in order to incorporate the criterion of 'pace of adoption of IC', the proposed health systems must each include examples of countries with a

[88] The Scirocco project maturity model is available from: http://www.scirocco-project.eu/

medium-to-low level of IC adoption (e.g. Romania, Hungary, Lithuania), and countries from medium-to-high level of IC adoption (e.g. Spain, Sweden, Italy), as reflected in D.2 and D.3 (Literature Review and Mapping of Integrated Care Strategies and Models, respectively).

- Case studies should be innovative in the sense that they are not based on repetitive information of well-studied IC initiatives.

The health systems pre-selected by the Study Team as potential case studies for IC readiness assessment are listed below.

Table 5 : Pre-selection of health systems

Country	Level of de-centralisation of national health system	Healthcare funding	Integrated Care sites and / or regions concerned	Core features of integrated care in the site
North				
NO	Operatively de-centralised (Angell, 2012)	National health system	Stavanger (Local)	Listed as an EIPonAHA reference site. High level of IC adoption.
DK	Partially de-centralised, legislation is centralised	National health system	Southern Denmark (Regional)	Listed as an EIPonAHA reference site. In this region, some of the IC initiatives have a prominent focus on ICT. High level of IC adoption.
FI	Partially de-centralised, legislation is centralised	National health system	Helsinki (Local)	Research carried out for Task 2 (literature review) and Task 3 (mapping of IC strategies and models) revealed relevant local/urban initiative that the Study Team considers worth investigating further. Moderate level of IC adoption.
IS	Centralised but structured at territorial level (European Observatory, 2014)	National health system	National level	Research carried out for Task 2 (literature review) and Task 3 (mapping of IC strategies and models) revealed relevant national-level initiatives that the Study Team considers worth investigating further. Moderate level of IC adoption.
South				

Country	Level of de-centralisation of national health system	Healthcare funding	Integrated Care sites and / or regions concerned	Core features of integrated care in the site
PT	Centralised but structured at territorial level	National health system	National level	Research carried out for Task 2 (literature review) and Task 3 (mapping of IC strategies and models) revealed one relevant national-level initiative that the Study Team considers worth investigating further. Low level of IC adoption.
ES	De-centralised	National health system	Asturias (Regional)	The Asturias region in Spain is not as well documented in the IC-related literature as other regions (e.g. Catalonia, Basque Country). However, it is listed as an EIPonAHA reference site. Although some regions in Spain such as Catalonia or the Basque Country have a high level of IC adoption, integrated care is less developed in Asturias (moderate to low).
EL	Centralised, but structured at territorial level	Mixed private and public	National level	Listed as an EIPonAHA reference site. Low level of IC adoption.
IT	De-centralised	National health system	Lombardy (Regional)	High prevalence of integrated care initiatives, as revealed by the mapping of IC strategies and models. Particularly, the Study Team considers the interconnection of ASLs (Aziende Sanitarie Locale) in Milan, Como, Lecco and Bergamo to be of interest. In this region, some of the IC initiatives have a prominent focus on ICT. High level of IC adoption.
East				

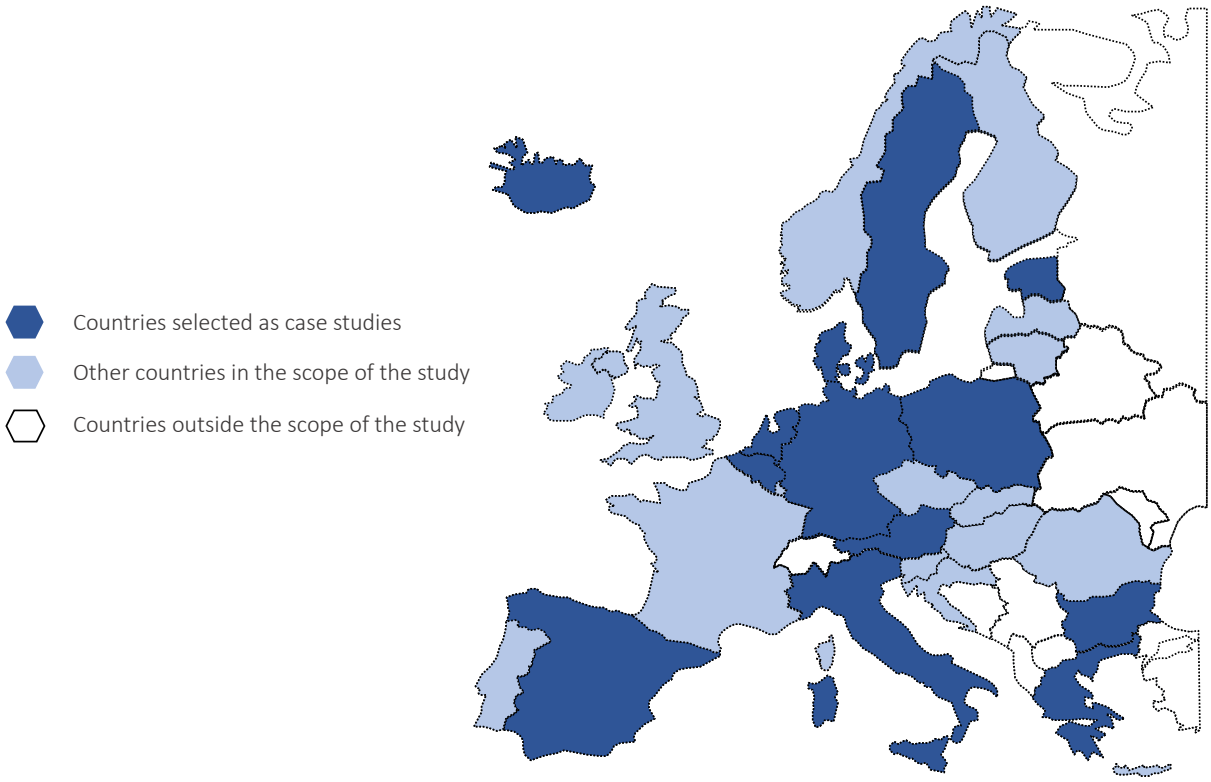
Country	Level of de-centralisation of national health system	Healthcare funding	Integrated Care sites and / or regions concerned	Core features of integrated care in the site
EE	Partially de-centralised; legislation is centralised	Social health insurance	Harju (Regional, including Tallinn) or national level	Recommended by our panel of experts. The use of digital technology as a means to deliver integration of healthcare, social care, and health records is of particular interest. Low level of IC adoption.
LT	Partially de-centralised; legislation is centralised	Social health insurance	Kaunas (Local) or national level	Recommended by our panel of experts. Low level of IC adoption.
BG	Operatively de-centralised	Mixed private and public	Sofia (Local) or national level	Recommended by our panel of experts. Low level of IC adoption.
PL	Partially de-centralised; legislation is centralised	Social health insurance	Siedlce (Local)	Research carried out for Task 2 (literature review) and Task 3 (mapping of IC strategies and models) revealed relevant national- and regional-level initiatives that the Study Team considers worth investigating further. New legislation on the implementation of IC and chronic care management has recently been approved. The case study could focus on: a. The province of Lodz – an EIP reference site; OR b. The Centrum Medyczno-Diagnostyczne (Medical & Diagnostic Centre) in Siedlce. Moderate level of IC adoption.
West				
BE	Partially de-centralised,	Social health insurance	West Flanders (Regional)	Listed as an EIPonAHA reference site, and retrieved by the Study

Country	Level of de-centralisation of national health system	Healthcare funding	Integrated Care sites and / or regions concerned	Core features of integrated care in the site
	legislation is centralised			Team during the research carried out for the mapping of IC strategies and models, together with other innovative IC- and chronic care-related projects that will be implemented in the next two years. High level of IC adoption.
DE	Partially de-centralised, legislation is centralised	Social health insurance	Saxony (Regional)	Research carried out for Task 2 (literature review) and Task 3 (mapping of IC strategies and models) revealed relevant national- and regional-level initiatives that the Study Team considers worth investigating further. The Wiesbaden geriatric network is of particular interest as it is not as well documented as other IC initiatives (e.g. Gesundes Kinzigtal). Moderate level of IC adoption.
AT	De-centralised	Social health insurance	Styria (Regional)	Listed as an EIPonAHA reference site, and retrieved by the Study Team during the research carried out for the mapping of IC strategies and models. Low level of IC adoption.
NL	Operatively de-centralised	Social health insurance	National level	The Northern Netherlands region is listed as an EIPonAHA reference site, and retrieved by the Study Team during the research carried out for the mapping of IC strategies and models. High level of IC adoption.

The abovementioned selection of health systems as case studies is further illustrated in the map shown in Figure 6, which highlights the countries with health systems selected as

case studies, other countries that are in the overall scope of this study, and countries falling outside the scope of this study.

Figure 6. Health systems pre-selected as potential case studies for integrated care readiness assessment



Applying the selection criteria based on the healthcare funding, geographical scope and the level of integrated care adoption among the pre-selected 16 sites, the Study Team selected the following 12 case studies for assessing the maturity of healthcare systems to adopt integrated care (the selection of two health systems was modified at a later stage in the project):

1. Belgium
2. Bulgaria
3. Denmark
4. Germany
5. Greece
6. Iceland
7. Italy
8. Netherlands
9. Norway (replaced by Sweden)
10. Poland
11. Spain
12. Lithuania (replaced by Estonia)

7.3 Annex 3: Health system fiches and assessments of integrated care maturity

The Health system fiches and assessments of integrated care maturity are available in a separate report – *Health system fiches.*

7.4 Annex 4: Selection of integrated care projects for the development of the Performance Assessment Framework Model

For the development of a framework to assess the performance of integrated care models, the Study Team identified and engaged with at least 12 integrated care projects. Because this sample of integrated care projects will be used to test the performance assessment framework, the Study Team selected integrated care projects that are mature or well advanced in their stage of implementation. Our sample will include:

- The six projects at national and regional level, supported by EU Health Programme, that were presented at the Integrated Care Implementation Rooms, during the ICIC 2017 conference held in Dublin (European Commission, 2017m). The projects are implemented in the regions listed below:
    - Scotland, United Kingdom;
    - Northern Ireland, United Kingdom;
    - Norrbotten, Sweden;
    - Basque Country, Spain;
    - Catalonia, Spain;
    - Northern Netherlands, Netherlands.

- At least six integrated care projects widely considered to be at an advanced stage of implementation based on a series of considerations (e.g. as defined by the level of maturity using the Maturity Model for Integrated Care developed under the SCIROCCO project[89]). Through a combination of desk-based research, stakeholder consultation and input from the study's expert advisors, the Study Team has identified the following as projects of interest to inform the design of the framework model for assessing the performance of integrated care:
    - Kinzigtal, Germany (Gesundes Kinzigtal)
    - North West London, UK (Whole Systems Integrated Care)
    - Jönköping County Council, Sweden (The Esther Model)
    - Fredericia, Denmark (Life Long Living)[90]
    - Lombardy, Italy (Buongiorno CReG)
    - Netherlands (Buurtzorg)
    - Noord-Holland, Netherlands (Geriant)
    - Skåne, Sweden (Project Hälsostaden)[91]
    - South Karelia, Finland (EKSOTE)

[89] More information available from http://www.scirocco-project.eu/

[90] Alternatively, the project selected could be the integrated care model of Southern Denmark, explored in Task 6.

[91] Alternatively, this or another project could be replaces by one at EU level, for example SELFIE (Sustainable Integrated Chronic Care models for multi-morbidity) Project: http://www.selfie2020.eu/

- East Sussex, United Kingdom (East Sussex Better Together)
- Belgium (Integreo)
- Emilia-Romagna, Italy (SOLE – Sanità Online).

A summary of the main characteristics of the proposed integrated care projects is presented below.

1. Gesundes Kinzigtal, Kinzigtal, Germany

Gesundes Kinzigtal is an organisation set up by network of physicians in Kinzigtal and a Hamburg-based healthcare management company and, since 2006, it has held long-term contracts with two German non-profit sickness funds to integrate health and care services for their insured populations, covering all age groups and care settings. Their model of integrated care is based firstly around improving general health and well-being through prevention and self-management. They hold contracts with traditional health and care providers and collaborate with a range of community groups including gyms, sports clubs, education centres, self-help groups and local government agencies. Gesundes Kinzigtal has also developed targeted care management and prevention programmes for particular high-risk population groups; health professionals are trained in shared decision-making to ensure that patients are actively involved in their own care when they do require input from health services. Professionals also benefit from the availability of a system-wide electronic health record to ensure that information about patients is available across providers and care settings to support effective coordination of care.

External and internal evaluation have demonstrated reduced mortality rates and improvements in the efficiency of services, as well as people's experience of care. Between 2006 and 2010, it generated a saving of 16.9% against the population budget for members of one of the sickness funds, compared with a group of its members from a different region. One of the main drivers of this saving related to emergency hospital admissions: between 2005 and 2010, emergency hospital admissions increased by 10.2% for patients in Kinzigtal, compared with a 33.1% increase in the comparator group.

Overview

Population-based approach centred on prevention and self-management for insured population through contracts with traditional health and care providers as well as collaborating with a range of community groups to promote healthy lifestyles. Targeted care management and prevention programmes for high-risk populations. Healthcare providers reimbursed by sickness funds, but Gesundes Kinzigtal holds 'virtual accountability' for the healthcare budget for this population group. If the sickness funds spend less on healthcare than the population budget, Gesundes Kinzigtal shares the benefits.

Results

- Saving of 16.9% against the population budget for members of one of the sickness funds, compared with a group of its members from a different region;
- 22.9% lower increase in emergency hospital admissions than comparator group.

Key features

- Shared savings incentive for providers, the management company and the insurer
- Collaboration with community groups
- Shared-decision making training for health professionals
- System-wide electronic health record
- Health promotion programmes for schools, workplaces, and unemployed people

Furthermore, the Gesundes Kinzigtal team have made a commitment to the EIPonAHA (See European Commission, 2018a).

2. Whole Systems Integrated Care (WSIC), North West London, UK

The North West London Whole Systems Integrated Care (WSIC) initiative has been developed by 30 organisations, community groups and lay partners coming together so that quality of care for individuals, carers and families improves, while empowering and supporting people to maintain independence and to lead full lives as active participants in their community. In 2013, North West London was one of the 14 sites across England selected to become one of the national 'Pioneers' of integrated care.

The project is supported by three key principles:

- People will be empowered to direct their care and support and receive the care they need in their homes or local community.
- GPs will be at the centre of organising and coordinating people's care.
- Our systems will enable and not hinder the provision of integrated care.

The success of the integrated care approach would be measured by:

- Independence and better quality of life for individuals
- Improved quality of care for individuals
- Reduced number of unnecessary visits and/or appointments
- Providers of health and social care services working as one seamless team for a clear group of named people
- Fewer people needing to go to hospital, more people well at home
- Keeping people well and healthy in a more cost-effective way

Overview

The WSIC programme builds on prior developments such as integrated care and community budgets pilots. It seeks to improve quality of care for a population of over two million people. Commissioners include eight clinical commissioning groups (CCGs), eight local authorities and the NHS England North West London local area team. Among other collaborative financial arrangements, the eight CCGs have pooled their 2.5% transformation budgets to pay for the WSIC programme and related change initiatives.
NHS providers include nine acute and specialist hospital trusts, four mental health and/or community trusts and over 400 GP practices.

Results

- It has been able to make significant investments in co-design and planning, before developing pilot schemes, known as 'early adopters'.
- National barriers have slowed progress such as difficulties obtaining data-sharing agreements, clarifying and establishing the necessary information governance arrangements; separate payment systems and governance structures between sectors; and organisational fragmentation.
- The costs of the programme have been GBP24.9 million over the three years 2013/14 to 2015/16.
- The WSIC programme has sought to maintain an inclusive, learning style, incorporating formative evaluation, lessons learned from the pilots, international experience and external advice.

Key features

- The WSIC programme is ambitious and well resourced through funding from the pooled budgets of the North West London Collaboration of Clinical Commissioning Groups.
- The ambitious nature of the programme has enabled a whole health economy approach, but has added complexity in terms of governance and management processes.
- The extent of lay partner involvement in designing, planning and governing the WSIC programme has been a defining feature of its approach, and provided an additional source of challenge to established practices.

3. The Esther Model, Jönköping County Council, Sweden

The Esther Model, developed by Jönköping County Council, is a patient-centred model of integrated care that was devised by a mix of providers and health staff in response to an elderly individual (Esther) having a bad, fragmented experience of care when being admitted through the health system to hospital. The model is based on:

- Developing a more flexible organisation with patient value at its focus
- More efficient and improved prescription and medication routines
- Documentation and communication of information adapted to the next link of the care pathway
- Developing an efficient IT-support through the whole pathway of care
- Developing and introducing a diagnosis system for community care
- Developing a virtual competence centre for better transfer and improvement of competence through the care pathway

The programme evolved to include other services such as 'life cafés', where people come together to discuss how they can improve different aspects of their health and wellbeing, and draw on the knowledge of 'expert patients'. Jönköping County Council uses population-level data to understand the needs of different population groups, and uses a dashboard of indicators to monitor health outcomes across and within local populations. The Council then works in partnership with local government in Jönköping's municipalities to plan and deliver services to improve population health in each locality.

Overview
Patient-centred model of integrated care that was devised by mix of providers and health staff. It was founded on providing a less fragmented pathway and has more recently incorporated a prevention approach through the use of educational 'life cafés'. Services are planned and delivered based on population-level data and a dashboard of indicators that monitors health outcomes.

Results
- 2,000 less hospital admissions approx. in five years
- 1,000 less hospital days approx. for heart failure patients in two years
- Waiting times for referral appointments with neurologists decreased from 85 days in 2000 to 14 days in 2003 and fell from 48 days in 2000 to 14 days in 2003 with gastroenterologists.

Key features
- Patient-centred approach
- Documentation and communication of information between care pathway stages
- IT support through whole pathway of care
- Diagnosis system for community care
- Virtual competence centre for improvement on care pathway deliverance
- 'Expert patients' at 'life cafés'
- Population data-driven services

4. Life Long Living, Fredericia, Denmark

Life Long Living is a model of interaction between the municipality and the elderly citizen who requests practical or personal care and assistance. The model is built on empowerment and participation, and aims at giving older people control over their own health and lives. They are helped and trained so that they can regain their autonomy to perform various daily tasks, which maintains or slowly increases their physical, social and cognitive abilities and allows them to keep living independently and postpones age-related weakening. The participation aspect of the model refers to the input of older people into the implementation of the programme.

A citizens' involvement group, made up of ten senior citizens, has been given the responsibility of providing constructive input into and criticism of the initiative, and to bring feedback from their peers. This group is vital to promote the engagement of older people in this process, which directly affects them, and would not work without their support.

The biggest achievement of the model is the increased satisfaction of the elderly people engaged: 85% have improved their quality of life, 45.9% have become empowered completely and live independently, and 38.9% need less help than previously. Furthermore, employees in the Elderly Care Department expressed significantly greater job satisfaction. The cost of services provided by the municipality has also decreased significantly by approximately EUR170,000 per month – more than EUR2 million per year.

The saved money is directly used to cover the growing number of people in need of rehabilitation services due to an ageing population. Finally, since 2012, the Model has been integrated in the Danish national budget as a model of good practice for all Danish municipalities.

Overview
A model built on empowerment of elderly people to give them control over their health and lives. They are helped and trained in performing daily tasks, maintaining or slowly increases their physical, social and cognitive abilities. This allows them to keep living independently and postpones age-related weakening. The model also requires input from a citizen's involvement group for feedback.

Results
For elderly people:
- 85% improvement in quality of life
- 45.9% complete empowerment
- 38.9% need less help than previously

Greater job satisfaction in Elderly Care Department

Decrease in cost of services by approx. EUR170,000 per month – more than EUR2 million per year.

Key features
- Driven by elderly person's request for assistance
- Help and training of daily tasks
- Feedback into the imitative from senior citizens

5. Buongiorno CReG, Lombardy, Italy

Buongiorno CReG is implementing a model of care of chronic diseases, to provide real comprehensive care of chronic patients, outside of the hospital. The main principles of CReG include:
- Care coordination – a cooperative of family doctors (GPs) assign a personalised care pathway to each chronic patient and ensure patient adherence.
- Telemonitoring system – Basic vital signs are captured in patients' homes and transmitted to a central office together with results of simple patient surveys about health and lifestyles. Results are monitored and trended for long-term chronic care and appropriate intervention steps are planned and executed.
- Patient education – through structured online patient education programmes and a GP welcome pack, as well as 24/7 access to a service centre operated by trained personnel.

The costs of patient education and empowerment are covered by the CReG tariff.

Buongiorno CReG has made a commitment to the EIPonAHA (European Commission, 2018b).

Overview

A GP-led model aimed at providing comprehensive care of chronic patients outside of hospital. Personalised care is given to patients, as well as structured online patient education programmes and 24/7 access to a service centre. Basic vital signs can be captured in patients' homes and transmitted to a central hub along with health surveys, to monitor patients and inform intervention steps. Costs are covered by the CreG tariff.

Results

- 77% of patients and clinicians followed care plans
- 66% of patients believed that participation positively affected their health
- 74.77% of the patients believed the service helped manage their disease
- 93% of patients informed their GP of their outcomes
- Reductions in blood pressure, LDL cholesterol and HbA1c levels

Key Features

- Personalised care plan administered by coordinated GPs
- Telemonitoring system
- Health and lifestyle patient surveys
- Patient education programmes – online and GP packs
- 24/7 access to service centre operated by trained personnel.

6. Integrated home-based model Buurtzorg, Netherlands

Founded in the Netherlands in 2006/07, the Buurtzorg model is a unique district nursing system. Nurses lead the assessment, planning and coordination of patient care. The model consists of small self-managing teams of a maximum of 12 professionals (comprising both nurses and other allied health professionals). These teams provide coordinated care for a specific catchment area, typically consisting of between 40 to 60 patients. The composition of these teams in terms of specialty and level of practice varies according to the needs of each catchment area. Buurtzorg cares for patients who are terminally ill, suffer from long-term conditions or dementia, or require home care following major surgery.

By limiting managerial structure and bureaucracy, Buurtzorg's nurses have greater autonomy to organise their own client visits and day-to-day nursing interventions. This has reduced administrative costs and time spent on paperwork. There is a 40% reduction in client costs when compared to other homecare organisations, indicating potential national savings of EUR2 billion per year. There has been a 50% reduction in hours of care due to health promotion initiatives and promotion of self-care and patient independence. Buurtzorg's overhead costs are estimated at 8%, compared to a competitor average of 25%. Despite being a not-for-profit organisation, Buurtzorg registered a 4% profit margin in 2014. In terms of staff efficiency, the sickness rate for 2014 was 4%, compared to a competitor average of 6%. Due to the success of the programme, it was able to attract a 60% higher number of nursing graduates.

Overview
Home-based care model, providing care for medical, long-term conditions and personal/social care needs. Care plans co-created with clients and families and an allocated care coordinator. Self-managing team of nurses, taking out management layer, supported by a small back office for administration and a small proportion of coaches (15 supporting 800 teams). Each team consists of a maximum of 12 staff who work at community level (40–60 patients).

Results
- Reduction of administrative costs, overhead costs, and sickness rates of staff through self-managing nursing team
- 40% lower costs of care per client
- 50% reduction in hours of care due to health promotion initiatives and promotion of patient independence

Key features
- No management layer. Accountability lies with the practitioner
- Network mapping of informal and formal care and assess ways to involve these carers in the client's care plan.
- Promotion of self-care and independence
- 24/7 access to a district nursing team via phone or home visit.
- Use of Omaha model to measure patient outcomes
- Web application functioning as a digital hub for information and data, which all nurses hold on an iPad.

7. Geriant, Noord-Holland, Netherlands

Geriant provides care for dementia patients. Core to this model is the provision of clinical case management, embedded in multidisciplinary dementia care teams. Its care focuses on patients living at home, as well as their family members or peers. The core tasks of Geriant are diagnostics, treatment and case management, and the patient can make the entire journey at Geriant from the first presumption of dementia until they can no longer live at home. For this, there are four active teams that take on the support at home. These teams work closely with the Geriant clinic, a screening department with 16 beds for psychological examination and treatment for people with dementia. The teams that provide care at home also provide case management at certain care institutions, such as nursing homes. Geriant has close collaborations with primary and secondary care, including mental healthcare, taking a proactive role in aligning services across providers. At the end of 2012 Geriant served 3536 clients in its community-based programme, having 174 people (124 full-time equivalents) on its payroll.

In a broad national evaluation of case management for people with dementia (Geriant was one of 13 initiatives studied), a survey among informal caregivers showed that case management made them better informed and able to deal with symptoms of dementia and more aware of the availability of care and support services, and they felt less lonely. The same survey showed that case management reduces the number of unplanned visits

to the client's general practitioner. Compared to the national average, three to four times as many people in the organisation's catchment area used mental healthcare services. A group receiving general long-term care but no mental healthcare services was compared to a group receiving both general long-term care and mental healthcare services. The comparison shows that the total care expenditure in the last life phase was 47% lower for the group also using mental healthcare services, saving on average more than EUR48,000 per person. In addition, the average length of stay in a nursing home was around nine months lower for this group, while expenses for dementia-related hospital care for people in Geriant's catchment area were 40% below the national average.

Overview

Clinical case management embedded in multidisciplinary dementia care teams. Close collaboration with primary and secondary care. Informal caregivers both partners as well as receivers of support.

Results

- Increased awareness of disease and available care and ability to deal with symptoms of dementia
- Initial decrease in caregiver burden
- Increased level of mental healthcare use – research suggest this is related to lower total care expenditure, a decreased length of stay in a nursing home and lower expenses for dementia-related hospital care

Key features

- Case manager throughout client's trajectory
- Multidisciplinary teams providing acute and long-term services
- Screening department with beds and 24/7 clinical care

8. Project Hälsostaden, Skåne, Sweden

Project Hälsostaden is a health and social care organisation jointly managed by a steering committee and board with oversight from the Municipality of Ängelholm and Regional Council for Skåne. It employs 600 health and social care professionals, as well as administrative staff. It works to bring together primary care and hospital services, previously delivered by regional councils, with elderly and social care, previously delivered by the municipality. It is founded on facilitating coordinated care and its main components are:

- Care pathways are designed according to what is best for patients and refined through trial and error, with new tools developed to guide integrated models of working.
- It employs a multidisciplinary workforce including physicians, nurses, welfare officers and therapists; collaboration and teamwork are encouraged through a shared organisational culture and the staff are connected by an electronic medical record system. The workforce also benefit from additional training on palliative and end-of-life care designed to strengthen their competencies, while also being presented with a number of shared learning opportunities by engaging across professionals.

- Operates under a single management uniting municipal, primary care and hospital officials; a joint budget increases integration and pools resources.

Overview
- Jointly managed health and social care organisation bringing together primary care and hospital services with elderly and social care
- Founded on facilitating patient-centred, coordinated care in designing care pathways
- Aims to create a shared organisational and learning culture among a multidisciplinary workforce

Results
Within first year:
- Over 90% of patients were seen within government-set waiting time targets; it was ranked among the top 10 nationwide
- Within its first six months, the emergency mobile care team made 334 visits to 188 patients; in 94% of cases an unnecessary visit to the emergency room was prevented and in 73% of cases unplanned inpatient hospitalisations were avoided
- The emergency mobile team saved EUR600,000 from reducing unnecessary hospitalisations, while only costing around EUR130,000
- Feedback from patients about Hälsostaden has been positive, and 100% of patients reported satisfaction with care from the emergency mobile team

Key Features
- Care pathways designed through 'common sense' and refined through what is best for patient
- Multidisciplinary workforce
- Additional training given on palliative and end-of-life care
- Single management and a joint budget to increase integration and pool resources
- Emergency mobile care team

9. South Karelia Social and Healthcare District (EKSOTE), South Karelia, Finland

EKSOTE combines primary and secondary healthcare, elderly care and social care and promotes health and everyday wellbeing and functioning. It aims to offer integration between the acute hospital, primary care and social services, provide better coordination in strategy financing and investments by the owner municipalities, and have a common workforce and recruitment strategy. It was established in 2010 and works by delivering patient-oriented care to the approximately 133,000 citizens of South Karelia in South-Eastern Finland. Nine municipalities participate in the operations of EKSOTE and they enter into service contracts with EKSOTE based on the needs of those areas. EKSOTE has only one financial system; previously there were different systems in each municipality and this system allows for replacement of personnel and salary harmonisation.

Conventional healthcare centres are replaced by wellbeing centres, which offer social and healthcare services based on the needs and age structure of the population of each service

area. Mobile services support the operation of wellbeing centres and low-threshold service centres and use special workers, mobile teams, and a clinic that provides nurse and oral health services to the district's remoter areas. Various theme days are organised in connection with the Mobile Clinic operation model with the prevention of future social and medical problems in mind. Urgent care at home is a new kind of operating model where standby urgent care, prehospital care and home care services are provided at home as needed. Electronic services are also being developed that can be accessed from home, facilitating easy services. The common electronic health record system is used in the healthcare centres and hospitals of all communities belonging to the organisation, which uses a centralised placement model and allows for the mobile social and healthcare services. All information concerning primary or secondary care as well as dental health records can be found in the same place.

Overview

- Combines primary and secondary healthcare, elderly care and social care and promotes health and everyday wellbeing and functioning.
- Aims to provide better coordination in strategy financing and investments by the owner municipalities, and have a common workforce and recruitment strategy.
- Provides access to wellbeing centres which offer services based on the needs of the local population.

Results

- Mental health and addiction evaluation
- Productivity increased by almost 50% in direct patient visits
- About 5% reduced costs over two years
- Very high measured patient satisfaction
- Implementation of electronic resources in home care (e.g. integration to an electronic patient record and data that can be seen in hospital or primary care in real time, etc.)
- Reduction of costs of 15%

Key features

- One financial system.
- Wellbeing centres replacing conventional healthcare centres and offering services based on local population needs.
- Mobile services offering prevention advice and remote doctors by appointment in local communities
- Urgent care services offered at home
- Accessible-from-home electronic services
- Common electronic health record system.

10. East Sussex Better Together Alliance, East Sussex, United Kingdom

East Sussex Better Together (ESBT) Alliance is made up of five local partners Eastbourne, Hailsham and Seaford CCG, Hastings and Rother CCG, East Sussex County Council, East Sussex Healthcare NHS Trust and Sussex Partnership NHS Foundation Trust. The ESBT

Alliance works closely with GP practices and other organisations providing health and care to local populations.

The ESBT Alliance considers that significant improvements have been made in care pathways across health and social care, such as Health and Social Care Connect (HSCC) and integrated locality teams. As a next step to allow for the transformation sought in service delivery, the Alliance is currently developing a new model of accountable care that integrates our whole health and social care system. This new model is expected to allow for a better use of the budget of GBP850 million that is spent every year to meet the health and care needs of the East Sussex population.

The model has a Governing board made up of the chief officers, board directors and governing body members who direct and lead the ESBT Alliance and operate the Alliance Agreement. The board is responsible for developing and agreeing the delivery of the Strategic Investment Plan, and holding the ESBT Alliance Executive to account for delivery of agreed plans, management of risk and any changes to proposed service arrangements, performance and resource allocations. They also lead the development of proposals for the full ESBT alliance accountable care model. Moreover, there is a strategic commissioning board undertaking the responsibilities for addressing population health need and for commissioning health and social care in the 2017/18 test bed year of the Accountable Care model.

The policies and programmes developed in East Sussex are as follows:

- Ensuring that every patient and client will enjoy proactive, joined-up care that supports them to live as independently as they can and achieve the best possible outcomes;
- Keeping people as well as possible and helping us to act quickly when they become unwell or require help;
- Ensuring people have access to the services when and where they need them;
- Helping people stay in or close to home and minimise hospital admissions;
- Ensuring that the services are effective and affordable.

The current priorities include:

- Improving urgent care services;
- Bringing together health and social care;
- Building stronger communities;
- Improved access to services;
- Tackling health inequality;
- Better community services;
- Improving health and wellbeing;
- Better use of medicines.

It would be interesting to include this project in the Integrated Care Assessment study as the model has developed an integrated outcomes framework that is being piloted in 2017/2018. To find out which outcomes were important to local people, the ESTB Alliance (formerly the 150-week East Sussex Better Together (ESBT) programme, starting in

August 2014) conducted a large-scale data review across a number of health and social care surveys. The team used the feedback received to shape the outcomes framework.

Overview

- Building on a 150-week integrated care programme, the ESBT Alliance has developed an Accountable Care model of integration across health and social care.
- The aim of ESBT is to develop a coordinated local health and social care system that ensures patients receive proactive, joined-up care, supporting them to live as independently as possible and achieving the best outcomes.

Results

The results of the model at this point in its maturity relate largely to process and implementation.

- The single point of contact hub (Health and Social Care Connect) now fully operational, referral rate increasing by 14% and high levels of caller satisfaction with the service.
- Integrated locality teams now fully staffed and operational
- Integrated care pathways established.

Key features

ESBT provides:

- Health and Social Care Connect (HSCC): telephone service letting health and care professionals communicate quickly to ensure the right care packages are put in place for adults as soon as they need them.
- Integrated locality teams: Multi-skilled teams, bringing together community nurses, social workers and therapy staff, will cover the population in set geographical areas, allied to groups of GP practices. The teams identify opportunities to help people take charge of their own health outcomes.

11. Integréo, Belgium

Integréo is a programme put in place by the Belgian government to advance in the implementation of integrated care in the country under the national plan in favour of chronically ill patients (Plan conjoint en faveur des malades chroniques. Des soins intégrés pour une meilleure santé; Government of Belgium, 2015). Integréo's mission is to improve the quality of life of the entire population, with particular attention to people with chronic illnesses so that people can live and work in the best possible conditions. To achieve this, the integrated care plan developed in Belgium aims to improve the (health) care system by pursuing a triple aim:

- Improved quality of life for patients and their caregivers;
- A healthier population for longer;
- More efficient use of available resources.

The action plans of the pilot projects developed under the Integréo programme must include 14 components and have to address structural change. The 14 components are as follows:

- Around the individual patient:
    - Patient empowerment
    - Caregiver support
    - Case management
- Work conservation, socio-professional and socio-educational reintegration
- Around professionals:
    - Prevention
    - Consultation and coordination
    - Continuity of intra- and transmural care
    - Valuing the experience of patient organisations
    - Integrated patient record
    - Multidisciplinary guidelines
- At the loco-regional level:
    - Development of a quality culture
    - Adaptation of financing systems
    - Risk stratification among the population and mapping of resources
    - Change management

There are currently 20 pilot projects ongoing across Belgium. The programme has at its core the performance assessment of integrated care and a systematic approach to assessing performance around three dimensions: continuity of care, effectiveness and patient centredness.

Overview

- The programme was approved in October 2015
- The 20 candidate pilot projects have been selected. The Royal Decree adopted on 18 August 2017 established the financing conditions to pilot projects on integrated care.

Results

- The project includes a global evaluation of the programmes.
- The consortium Faith.be will provide the following evaluation and support to the pilots, for example:
    - Evaluation of the impact of the changes on care integration and their impact on the triple aim
    - Process evaluation during the implementation period, linked to the 14 components of integrated care)
    - Support to pilots in terms of quality management and self-evaluation

Key features

- The aim of the pilots is to develop integrated care in an area of about 100,000 to 150,000 inhabitants.
- In total, the 20 projects cover a population of 3.67 million inhabitants, targeting people with chronic diseases
- The 20 pilots are in the conceptualisation phase
- During the implementation phase, the selected projects will receive additional funding of EUR150,000 per year to cover the costs of a full-time project coordinator. The

remaining budget may be used for other costs related to the coordination of the project: operating costs of the coordinator, miscellaneous administrative costs, additional projects, etc.

12. SOLE – Sanità Online, Emilia-Romagna, Italy

SOLE – Sanità Online (SOLE – Health online) is the network that connects physicians and paediatricians with health facilities and hospitals of the Emilia-Romagna region. This allows:

- Doctors, paediatricians or hospital prescribers to issue e-prescriptions, as well as e-consultations.
- Automatic return of the specialised diagnostic and report the family doctors (in the patients' electronic records).
- Notification to patients and families of changes in personal data and exemptions from physicians and paediatricians.
- Notification of hospitalisation and discharge of the patient admitted, subject to their consent, from the hospital to the doctor and family paediatrician.
- Release of emergency room reports, with the consent of the patient, hospital doctor or family paediatrician.
- Vaccinations to be carried out by vaccination services, the community paediatrician, the physician or the family paediatrician.

The portal provides services and information exchange between physicians and paediatricians, other specialists and inpatient and outpatient healthcare providers, administrative structures of health agencies, licensed regional operators, and SOLE project staff.

Overview

- Started in 2003, the SOLE network in Emilia-Romagna aims at boosting the efficient sharing of health information which is indispensable for the effective delivery of care.
- The idea was to create an integrated network of Local Health Trusts, hospitals, general practitioners and paediatricians and to provide, through the electronic health record (EHR), the clinical history of every citizen of the region.
- All the relevant players in the region have been involved in the SOLE project: the Emilia-Romagna Region as promoting and funding body and strategic guide; all the regional Local Health Trusts; GPs, paediatricians, specialist and hospital doctors; CUP 2000, a company providing project support and managing the purchase of technology.

Results

- Every citizen of Emilia-Romagna Region, including the elderly, can activate their electronic health records. More than three quarters of the regional population (about 3.4 million) have already given their consent.
- Through the portal citizens can access their clinical history, and GPs can access patients' clinical data in real time.
- More than 66 million clinical documents transit from the SOLE network each year.

- SOLE/EHR is a federated system adopted by all 11 Local Health Trusts of the Region and by six large hospitals.

Key features

- The use of ICT in the Emilia-Romagna Region ensures the timely and accurate collection and exchange of health data and can foster better care coordination and the most efficient use of resources through the promotion of standards, guidelines and reference platforms for interoperable solutions.
- With the patient's formal consent, documents already available in the network are automatically inserted in the record, which is permanently available on the internet in a protected, confidential format.
- All citizens can insert medical documents, personal data and information into their own file; these documents can be accessed only by the patients themselves or can be shared with GPs and other specialists.

7.5 Annex 5: Integrated Care Performance Assessment (ICPA) Model

The Integrated Care Performance Assessment (ICPA) Model is provided in a separate file (*Performance Assessment Framework.xls*).

To facilitate the use and practical application of the core set of performance assessment indicators identified in this study, an accompanying framework model has been developed in Excel. The tool prototyped for the study would allow users to contextualise their integrated care initiative, monitor performance against the core indicators and additional ones they would like to measure, and link their allocation of resources to specific indicators. The framework allows users to set their current state and a target performance they would like to achieve, and to reflect on the enablers and barriers that have enhanced or limited the outcomes of each indicator.

The framework is structured into six tabs:

- In the first tab users can set the context and the objectives of the integrated care initiatives, outline what they predict the risks of the performance assessment to be, and think of mitigating strategies to overcome the risks;
- The second tab with the core indicators is the main component of the performance assessment exercise. Users will have the opportunity to adapt each indicator to their specific context and will be able to add any specific health outcomes they want to assess.
- The third tab will have a table for optional indicators, which users can add. These can either be selected from a long-list of additional indicators (fourth tab) or can be added manually by users.
- The fourth tab contains the long-list of additional indicators taken from the HSPA report (2015).
- The fifth tab looks at financial outcomes and will allow users to associate their allocation of resources to one or more indicators and compare that with the outcome.
- The sixth and last tab contains a summary of the assessment results and a list of resources.

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